

The Interaction of Characteristics of Performance Management Systems and the Role of the Management Accountant – a Comparative Case Study Approach

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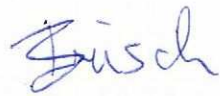
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DECLARATION

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of a Doctor of Philosophy (PhD) is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

Signed:

A handwritten signature in blue ink, appearing to read 'Brusch', is positioned above the printed name.

Brusch Antje

ID No.: 12211367

Date: 08th April 2019

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LIST OF ABBREVIATIONS

ANT	Actor-Network Theory
BI	Business intelligence
BoM	Board of Management
BSC	Balanced Scorecard
BU	Business Unit
CCO	Chief Commercial Officer
CFO	Chief Financial Officer
CIMA	Chartered Institute of Management Accountants
CRM	Customer Relationship Management
DCU	Dublin City University
EFQM	European Foundation for Quality Management
ERP	Enterprise Resource Planning
ESB	European School of Business
FMCG	Fast Moving Consumer Goods
HRM	Human Resource Management
HQ	Headquarters
IMA	Institute of Management Accountants (USA)
KPI	Key Performance Indicator
KSF	Key Success Factor
LOC	Levers of Control
MA	Management Accountant
MAS	Management Accounting System
MCS	Management Control System
MIS	Management Information System
OM	Operative Manager (counter-part of management accounting manager participating in the study – see Section 4.7)
P&L	Profit & Loss Statement
PMS	Performance Management System
RAPM	Reliance on Accounting Performance Measures
R&D	Research and Development
RPE	Relative Performance Evaluation
rSQ	Research Sub-Question
SQCDP	Safety, Quality, Cost, Delivery, People
UK	United Kingdom

ABSTRACT

Antje Brüsch

The Interaction of Characteristics of Performance Management Systems and the Role of the Management Accountant – a Comparative Case Study Approach

This study has a core research objective to investigate the interaction of key characteristics of a performance management system (PMS) and the role of the management accountant (MA). Based on case interviews with matched pairs of MAs and operative managers (OMs) in sixteen organisations, a cross-case analysis of each occupational group is performed – considering the MA and OM perspective separately, which is potentially new compared to prior management accounting literature. Whereas MAs tend to distinguish between three roles of scorekeeping, controlling and business support, OMs are mainly concerned with the value-adding and non-value-adding character of activities and thus support a dichotomy of the MA's roles. Extant PMS characteristics are operationalised and amended to build a structure for the analysis of interactions. Based on the role episode model of Katz and Kahn, the interaction is described as a role-taking and role-making mechanism, integrating the PMS characteristics as surrounding conditions as well as developing further influential factors. This results in an updated role episode model.

An original contribution to theory is the extension of Katz and Kahn's model to the context of management accounting which integrates amended PMS characteristics. This research also adds to management control literature in that the characteristics of a PMS framework are extended and related to the role of the MA as suggested by role antecedents in prior literature. The research also reveals factors enabling or blocking the business support role of the MA as well as the impact of role consensus or role conflict. This study also depicts four PMS models of strength and coherence, and highlights the necessity for further research on the impact of other stakeholders. For practitioners, the study reveals how the characteristics of a PMS might impact on the MA's role change towards a business support role.

CHAPTER ONE: Background, objectives and overview of the research

1.1 Introduction and background to the thesis

You could argue that a business is made up of a series of stereotypes. Sales departments get any deal at any price. Risk departments are cautious and conservative to a fault [...]. Accounting departments are full of number-crunchers. (Weaving, 1995, p. 56)

A management accountant without Excel, [...] this is, so to say, a double amputee. (OM5)

If you ask a key account manager what management accounting does, they do not even know. (OM13)

The above assertions from literature and by different operative managers (OM5, OM13) of two case study organisations (see Chapters 5 and 6) are illustrative of practitioner annotations that triggered curiosity and led to this research work. The initial thoughts for this study emerged during work at a German multinational company. A particular focus of the researcher's education was management accounting, resulting in having several positions as a management accountant (MA). The researcher also realised how many of the management accounting practices previously learned were undergoing a period of change. The role of the MA was also undergoing change. In particular, one project in the area of business excellence as a practitioner performance management system (PMS – see Section 2.3 for details) caught the researcher's attention in relation to role change. As will be revealed during the course of this thesis, this aspect is particularly interesting from an academic view, as it contains interactions of several interesting areas of research, namely, the role of management accounting (see Section 2.2), management control in the sense of PMS (see Section 2.3) and role theory in the sense of Katz and Kahn's (1978) role episode model (see Section 3.2.5). This in time led to researching relevant literature, and composing a research proposal on investigating the interactions of the above named areas.

Turning to management accounting literature, research in the Germanic context is a relatively nascent theoretical field within the area of business administration and is typically more practice-driven (Messner *et al.*, 2008, p. 136). Anglo-Saxon countries have institutionalised management accounting as a profession with organisations like the Chartered Institute of Management Accountants (CIMA) in the United Kingdom (UK) for example, whereas it cannot be considered as an organised profession in the Germanic context (Ahrens and Chapman, 2000). This is one reason why different management accounting approaches and roles of the accounting function can be observed in these contextual backgrounds (Ahrens, 1997). Yet, one recurring role in recent literature from the UK and Germany is the role of “strategic business partner” or “business support”, which is used multiple times as a referential role (Granlund and Lukka, 1998; Järvenpää, 2007; Lambert and Sponem, 2008; Schaeffer and Schuermann, 2010). However, research with a common definition of this role is not widespread – both across different countries as well as across different functions (see Section 2.2). Particularly operative managers (OMs – for a detailed definition see Section 4.7) and MAs do not seem to have the same comprehension of the role of the MA (Byrne and Pierce, 2007).

Despite the above cited research in the management accounting area, the extent to which a PMS affects the role of the MA has not been widely researched. Ferreira and Otley (2009) with their extended PMS framework do not explicitly refer to the MA as an involved person. Byrne and Pierce (2007) give some first indications on the interaction by citing the PMS as one of the antecedents of the role of the MA. However, they do not analyse how exactly the interaction happens and what the influential factors are.

Thus, this thesis draws on these two sources of empirical knowledge – management accounting and management control (particularly PMSs) – to generate an interdisciplinary research result. As suggested above, current literature in both strands does not necessarily follow a coherent discourse. This study will also suggest practical recommendations on how characteristics of a PMS might generate or facilitate change in the role of the MA and how this interaction might develop its impact for role change towards a business support role.

1.2 Research objective and questions

The overall objective of this thesis is to analyse how the characteristics of a PMS affect the role of the MA. Additionally, the underlying thesis seeks to tease out factors which cause the role to change, or not, as the case may be.

This interaction of the characteristics of a PMS with the role of the MA is interesting as – based on three core studies, Byrne and Pierce, (2007); Järvenpää, (2007); Ferreira and Otley, (2009) – a tension is apparent in that MAs consider themselves in a business support role (Granlund and Lukka, 1998; Byrne and Pierce, 2007) but do not appear to play a role in the wider PMS context (Henri, 2006, pp. 538–539; Ferreira and Otley, 2009, p. 264). This prompts a question as to why MAs are not involved, even if they claim to be omnipotent and business support-oriented. Stemming from this contradictory situation, the core research objective draws on a specific comment by Parker (2012) who explicitly states that performance management remains an area of continuing importance. However,

[...] questions of [how the] organisational control systems, management accounting and performance measurement and management interact, remain outstanding. (Parker, 2012, p. 66)

This interdependence principle is taken up by Schleicher *et al.* (2018, p. 2230) who stipulate the “examination of multiple [PMS] components” and the examination of “the interdependencies (and conflicts) that likely exist when individuals hold multiple roles”. As a part of this core objective, Byrne and Pierce (2007) define a PMS as an antecedent of the role of the MA. However, they identify performance systems only as one antecedent among many others and do not investigate the question of how and why this is the case in more detail. This question is the focus of the underlying research.

Based on the overall objective and the above mentioned tensions and prior calls in literature, two main research sub-questions (rSQs) and two contextual rSQs are presented below, which frame the thesis and guide the research. The main rSQs cover the research objective (Section 4.2) with the interaction of the characteristics of a PMS with the role of the MA including influential factors. The contextual rSQs cover the role of the MA and the characteristics of a PMS. As the chronological order of analysis will

start with the contextual rSQs in Chapters 5 and 6, the contextual rSQs are numbered rSQ1 and rSQ2; the main rSQs are then numbered rSQ3 and rSQ4. A separate analysis of MAs' and OMs' views, followed by a comparative analysis, structures the whole research and may lead to further findings as the extant literature mainly consolidates both views (Byrne and Pierce, 2007; Järvenpää, 2007; Ferreira and Otley, 2009).

Explicitly, rSQ3 asks for the actual interaction of the PMS characteristics with the role of the MA. The interaction includes a potential feedback loop from the role of the MA to the PMS characteristics. Byrne and Pierce (2007) consider the PMS as an antecedent of the role of the MA. However, the detailed interaction and the influencing factors behind this interaction remain open. This research further details this aspect by investigating in rSQ3:

How do the characteristics of a PMS interact with the role of the MA and vice versa?

Then, rSQ4 enquires on the influential factors of this interaction by asking:

What are the influential factors (or not)?

In order to analyse these main rSQs, it is necessary to tease out the contextual rSQs first. RSQ1 bases its structure on the roles described by Järvenpää (2007) and investigates:

What are the perceived roles of the MA?

The second contextual rSQ investigates the detailed characteristics of a PMS. It aims at the operationalisation of Ferreira and Otley's (2009) extended PMS framework and at further input complementing the framework. Also, it aims at a sound understanding of the characteristics of a PMS in order to be able to further work with the findings in the subsequent parts. Thus, rSQ2 investigates:

What are the perceived key characteristics of a contemporary PMS?

Answering these four rSQs feeds into addressing the core research objective of this study.

1.3 Research approach

The core research objective reflects how the study is conducted. Academic research adopts certain philosophical assumptions, and typically a theoretical approach underpins the interpretation of empirical data. A qualitative approach supports the philosophy of this study. As will be outlined later (see Chapter 4), this thesis is adopting a constructive ontology, an interpretive epistemology and a qualitative methodology. This means that the researcher believes in an interactive link between the researcher and the research subjects (study participants) where realities are socially constructed. The aim of interpretive management accounting research is to make sense of human actions and the meanings attached to everyday life contexts (Chua, 1986). As a result, a qualitative approach is used for the empirical research which best supports the research objective.

A case study method is best suited for this research as it investigates a contemporary issue within a real-life situation and uses multiple sources of evidence (mainly semi-structured interviews and concept maps – see Section 4.8) to understand the phenomena of the study. A multiple case study (Eisenhardt, 1989b; Yin, 2009) is the adopted research method (see Chapter 4). As already noted, there is support within the extant literature that a PMS is an antecedent of the role of the MA (Byrne and Pierce, 2007). However, what is not clear is how exactly the interaction works and what further influential factors there are. Thus, the boundaries between phenomenon and context remain unclear. Consequently, a case study method is suited to answering the “how” and “why” questions of this research (Yin, 2009).

The study organisations were selected based on purposive sampling (Bryman, 2016) leading to information-rich case studies with comprehensive details of the chosen phenomenon (Patton, 2002). In this regard, units of analysis were chosen with reference to the research objective to ensure the rSQs are answered. Semi-structured interviews with 32 participants were conducted, mostly at case study organisations in Germany. The interviews covered MAs and OMs closely working together. Simultaneously, a theoretical framework was considered with role theory and particularly Katz and Kahn’s role episode model (1978). Role theory as a sociological theory fits well with the context of this study as the role episode model explains the process by taking into

account the understanding of the role actants, i.e. MAs and OMs (see Chapter 3). Thus, it reflects the dual character of the study.

While the main data collection technique was through semi-structured interviews, this thesis adopts triangulation (Patton, 2002) of data collection sources to strengthen the validity and reliability of research findings (Eisenhardt, 1989b; Miles, Huberman and Saldana, 2014). This thesis employs a combination of interviews, archival records (e.g. interviewee CVs, company publications and company websites – see Table 4.3), concept maps and memos gathered during time spent with the interviewees. The thorough data analysis of this study consists of several steps: it begins with data coding based on template analysis (King, 2012) followed by the analysis of the within-case and cross-case findings (see also Appendix F to Appendix L), which are then compared to existing empirical and theoretical notions as suggested by Eisenhardt (1989b). Finally, it concludes with the development of an updated role episode model including the influential factors. To extend and build new theoretical insights, the data analysis was an iterative process (Eisenhardt, 1989b) going back and forth between existing empirical literature, theory and the empirical study material. The data were analysed following rigorous qualitative techniques of template analysis (King, 2012) assisted by the use of the qualitative software QSR NVivo 11 and Excel. Lastly, research validity was evaluated following primarily Ryan, Scapens and Theobald's (2002) trains of thought with reflexivity, procedural reliability, transferability and contextual validity (see Chapter 4).

1.4 Structure of the thesis

This thesis is structured into seven chapters as follows and schematised in Figure 1.1.

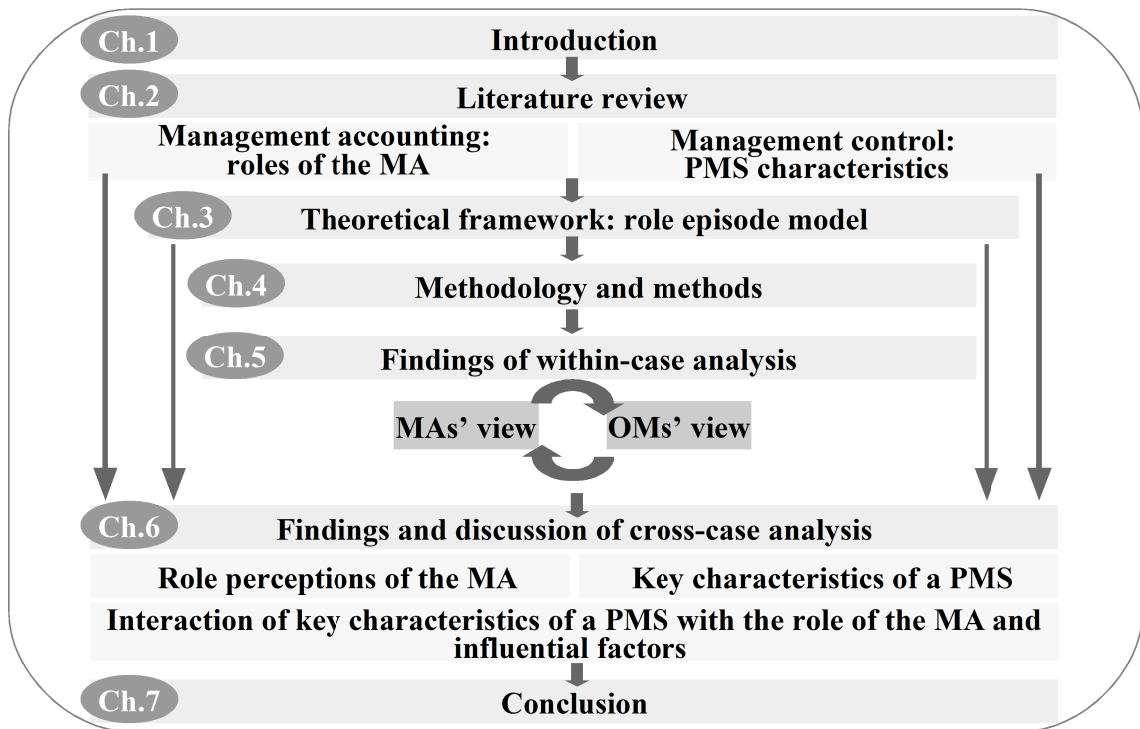


Figure 1.1: Structure of the thesis

After this chapter, Chapter 2 offers an in-depth discussion of the relevant literature for this thesis. Thus, it critically reviews the existing body of knowledge in two main areas: the first part summarises academic literature on the roles of the MA; the second part outlines empirical literature about contemporary PMSs, drawing on management control literature. Chapter 3 then describes the theoretical lens of this study, role theory. After detailing its history and its vocabulary, it outlines the underlying causal model and framework applied for this research with the role episode model (Katz and Kahn, 1978). The chapter also gives a short overview regarding the use of role theory in management accounting literature. To conclude this chapter, the main theories used in management accounting literature are reviewed and briefly discussed with regard to their potential fit to the underlying research.

Chapter 4 describes general methodological assumptions as well as the researcher's assumptions on knowledge. The structure of this chapter follows the steps of the realisation of the study. It points out how the assumptions relate to the research objective, and how the underlying research is influenced by these assumptions. It suggests how the theory chosen is supported by methodology. The rSQs are derived and explained in detail. The research strategy constitutes the basis for the empirical case

study which consists of qualitative semi-structured interviews triangulated with further data, mainly based on concept maps (see Section 4.8). The data collection and the data analysis methods are presented. The coding and interpretations follow a template analysis method with an identification of categories. A comparative case study analysis constitutes the overall structure for data collection, analysis and discussion. The chapter concludes by presenting the validity of the research and by addressing the limitations of the methodology adopted.

Chapter 5 presents the first part of the analysis, the findings of within-case analysis. After a short case group description, each case analysis is divided into four major parts following the rSQs: (1) analysis of perceived roles of the MA; (2) analysis of the key characteristics of a PMS; (3) analysis of how the characteristics of a PMS interact with the role of the MA; and (4) analysis of the influential factors of the interaction. The analysis uses rich extracts and quotes from primary (interviews) and secondary sources (concept maps) to support empirical findings and interpretations of the cases.

Chapter 6 presents the second part of the analysis, the cross-case analysis and discussion. This chapter discusses the empirical findings and interpretations from the within-case analysis and compares them in different formats. Findings emerging from within-case analysis are compared in order to investigate similarity (or not). It compares inter-organisationally (organisation X vs. organisation Y) or intra-organisationally (MAX vs OMX) where similarities appear. These similarities arising from the data are then reflected on with regard to the body of literature and with regard to potentially new interpretations. In addition, the findings are reflected based on the role episode model (Katz and Kahn, 1978) in order to offer an updated model integrating the two main rSQs.

The thesis concludes with Chapter 7 by discussing the findings, interpretations and contributions in relation to prior empirical literature. These are based on the overall research objective with the two main rSQs of the study. After an overview of the thesis, the chapter addresses the rSQs and discusses the empirical, theoretical, methodological and contextual contributions of this thesis. It continues with a discussion of implications

for practice, limitations of this study and recommendations for future research. Last but not least, a brief conclusion of the thesis is given.

CHAPTER TWO: Literature review

2.1 Introduction

To develop a comprehensive understanding of the affected research areas, it is first advisable to acquaint oneself with the main research streams that either implicitly or explicitly deal with aspects of interaction between the characteristics of a PMS and the role of the MA. For this aim, a structured literature review (Jesson, Matheson and Lacey, 2011, p. 108) based on a traditional critical literature review (Jesson, Matheson and Lacey, 2011, pp. 73–75) with chronological (Hart, 1998, p. 191), conceptual (Jesson, Matheson and Lacey, 2011, p. 76) and systematic elements (Bryman, 2016, pp. 98–105) has been performed. Figure 2.1 schematically summarises this process.

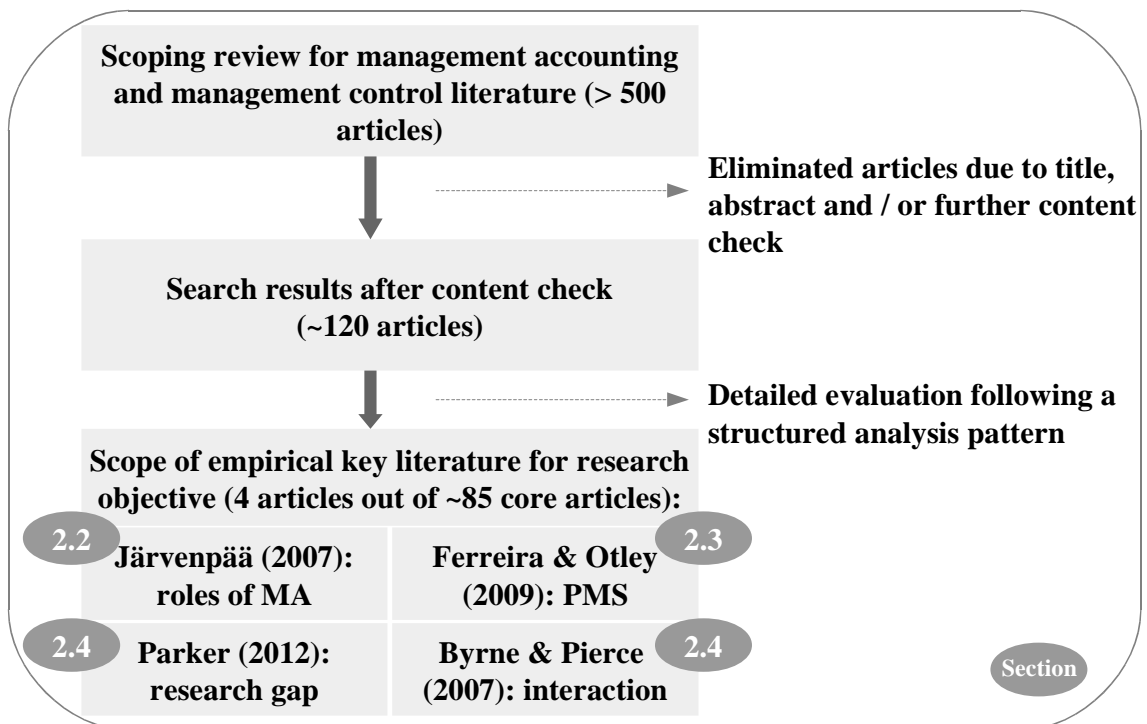


Figure 2.1: Process of literature review

Thus, this chapter introduces two relevant empirical research streams: the role of the MA based on management accounting literature (Section 2.2) and PMSs with their characteristics drawing on management control literature (Section 2.3). Afterwards, Section 2.4 illustrates briefly the existing literature on interactions between the two streams and thus builds the base of the research objective.

2.2 Literature review – management accounting

This section is structured as follows. After a short introduction, first, different role concepts of MAs will be investigated detailing the dichotomy of roles (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013) and further role distinctions (Kuepper, Weber and Zuend, 1990; Chapman, 1997; Järvenpää, 2009; Lambert and Sponem, 2012). Secondly, the impact of contextual factors on the role of the MA is described. The section concludes critiquing some of the reviewed literature and pointing out ideas for further research based on the analysed deficiencies.

2.2.1 Relevant role concepts of MAs

The field of management accounting represents the primary source of insight when addressing the role of the MA. While management accounting is a relatively young theoretical field, and only gained research focus in the 1970s in the German-speaking literature (Binder and Schaeffer, 2006, p. 3), research on the role of the MA is even more recent. Since about 1995, European academics have been focusing their research on change in management accounting, with the role change being one of the focal research issues (Burns, Ezzamel and Scapens, 1999). However, as per Byrne and Pierce (2007, p. 470), research on roles of the MA is still fragmented and there is a need for a more comprehensive picture. According to their analysis, existing research on the role of the MA is contradictory. In the German context, this is stressed by Ernst *et al.* (2008, p. 732) who did a quantitative survey of German companies and found that 72% of the companies had been explicitly dealing with role identity change of the MA. Furthermore, the 2011 (Schaeffer *et al.*, 2011), 2014 (Schaeffer and Weber, 2014) and 2017 (Schaeffer and Weber, 2017) studies support this result and place the role of the MA as “business partner” among one of the most important future topics within the domain of management accounting.

In order to keep the study focused on the interaction of management control with the role of the MA, the researcher emphasises a specific aspect of roles. The majority of the existing research on the MA’s roles focuses on an individual dimension and individual characteristics (Lambert and Sponem, 2012, p. 567). In order to entirely understand the

notion of a role, it should be considered as a “summation of the requirements with which the system confronts the individual member” referring to the aspect of belonging to a group (Katz and Kahn, 1978, p. 186). Thus, roles cannot be observed directly but require examination of diverging interactions (Katz and Kahn, 1978, p. 188). To date, only a limited number of research studies have developed this aspect further (Lambert and Sponem, 2012, p. 567). Thus, the literature research focuses on roles in terms of functional roles and in terms of activities. Purely behavioural research in the area of management accounting was omitted from the analysis as it is an area of its own. The overall concept of “role” used for this research will be further developed in Chapter 3 in the context of role theory.

The remainder of this section is organised as follows. First, three main concepts of MAs’ roles according to Järvenpää (2007) are analysed to have a structured overview for the further study. Thus, the structure is more oriented towards a further distinction of roles of the MA (Kuepper, Weber and Zuend, 1990; Chapman, 1997; Järvenpää, 2009; Lambert and Sponem, 2012) and not towards a dichotomy (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013). The other adjacent role concepts are considered which will give an overview about further possible approaches and which point out that there is no homogeneous discourse in management accounting literature about the role of the MA.

Järvenpää (2007) defines three common roles of the MA – scorekeeping, controlling and business support function. The following paragraphs will give an overview about the most commonly analysed roles of the MA starting with the basic role of the scorekeeping function. Järvenpää (2007) defines scorekeeping as gathering and registering data or information as well as preparation and dissemination of routine reports. This role of the MA is very information-based. There is no generally accepted definition of the term information. Whereas data can be considered as unstructured facts, information is created based on summarised data which are presented in a way that is useful to the information recipient. A management information system (MIS) ought to facilitate management and the steering of the business. Three activities in a MIS – input, processing and output – produce the information organisations and managers need to make decisions (Laudon and Laudon, 2006, p. 7).

The main role of the scorekeeping MA is to evaluate the information needs of information recipients (i.e. mainly managers) and to attain user-friendly data transfer and processing. The MA needs to distinguish between the subjective information demands and the objective needs of decision-makers (type, volume, quality). The level of expected details has to be adapted to the decision level in an organisation, supposing an increased level at a lower hierarchy (Guenther, 2013, p. 276). The MA's role can be considered a central institution of information management in the company. The MA is to improve transparency about economic issues and to allow for the implementation needs of cost accounting and MIS (Ernst *et al.*, 2008, p. 730).

The role of the scorekeeping MA can be used quite synonymously with the role of the bookkeeper. This means to “insure that reported financial information [...] is accurate and that internal control practices conform to corporate policy and procedures” (Sathe, 1983, p. 31). However, the risk of the MA being considered as an “outsider” by management might lead to ex-post compliance checks only (Sathe, 1983, p. 36). Another synonym of the scorekeeping MA is the role of the discrete MA as described by Lambert and Sponem (2012, p. 574). Beyond classical reporting activities, the discrete MA restricts his tasks to bureaucratic dimensions. He is responsible for signalling budget overruns and observes the compliance with rules and procedures. The product manager and marketing function is dominant in those companies that use the discrete MA's role. The latter is typical for industries in high-potential growth markets (Lambert and Sponem, 2012, pp. 572–575). The benefit of the discrete MA's role is that management remains creative and responsive; potential failures in internal control activities are the inconvenience (Lambert and Sponem, 2012, p. 574).

However, the requirements of today's management are no longer met by this very restricted approach (Ernst *et al.*, 2008, p. 730), even if it is still recognised as important and even if the role is well fulfilled in most companies (Byrne and Pierce, 2007, p. 491). The remainder of this section describes the wider roles of the MA which are controlling and business support.

The controlling role of the MA comprises producing and using surveillance, supporting control information and looking after managers. This approach combines the decision support-oriented MA and the coordination-based MA as summarised by Guenther (2013). For the decision support-oriented MA, the role focuses on supporting management decision-making by mainly operating a planning, monitoring and information system. Monetary earning targets are synonymous with organisational performance and serve as the key indicator for all the planning and monitoring activities. Strategic planning is not part of the approach (Guenther, 2013, p. 277). The MA's role in the decision process is mostly seen as an influencer, partner, guide, recommender or referee and not as a decision-maker (Byrne and Pierce, 2007, p. 482). This is supported by cost-benefit analyses and what-if scenarios conducted by MAs. One third of the interviewed OMs by Byrne and Pierce (2007, p. 483) considered cost management as the MA's main contribution. Within the decision support function of the MA, one can distinguish between decision-influencing and decision-facilitating information. According to Sprinkle (2003, p. 290), decision-influencing information influences motivation and serves to reduce the ex-post uncertainty. It is intended to ensure that employees behave in an organisationally desirable way. On the other hand, decision-facilitating information serves to reduce the ex-ante uncertainty for the decision-maker (Sprinkle, 2003, p. 302). The use of decision-facilitating information improves the decision-maker's knowledge and fosters their competence to make decisions that also meet the organisational objectives. The performance evaluation aims at making better decisions in the future, by evaluating the performance of past decisions (Sprinkle, 2003, p. 305). Consequently, decision-facilitating information plays a role in judgements and decisions that concern the past (e.g. performance evaluation) and the future (e.g. planning). However, the risk of MAs' involvement in decision support is to oppress OMs' creativity and initiative taking (Sathe, 1983, p. 36). To conclude, the decision support function is a very essential role for OM.

A more comprehensive role of the MA is the coordination-based approach as firstly presented by Horváth (1978). Within the role of the coordination-based MA, the limited and comprehensive coordination approach can be distinguished. The limited coordination role is further described by Horváth (2011) and includes the coordination of the three sub-systems of planning, monitoring and information support. It is limited,

as it does not cover other interfaces within the management control framework. The coordination role discriminates system building and system coupling coordination. The first includes the elaboration of the planning, monitoring and information sub-systems which fit together. It involves the establishment of institutions responsible for the coordination and problem-solving rules. The system coupling coordination additionally includes adjustment and improvement processes within the existing systems (Guenther, 2013, p. 277). Schmidt (1986) and Kuepper *et al.* (2013) further expand the limited coordination approach. They do not restrict the coordination function, but also include the coordination of the entire management system itself to assure target-oriented management control of the company. Consequently, the comprehensive coordination approach also includes the establishment of adequate organisational structures and the design of target agreements and incentive systems (Guenther, 2013, p. 278). The coordination-oriented MA is still the most frequently described role in German literature. It reflects the support function for management regarding the coordination of planning, control and information processing. Thus, MAs can facilitate a more effective and efficient management. The coordination-oriented role is often criticised for its describing character instead of explaining character, which results in a rationality-based role development (Ernst *et al.*, 2008, p. 731) or business orientation which is described next.

The business support function comprises of managerially active duties such as being an advisor and participating in the management activities (Järvenpää, 2007). Järvenpää (2007) comes to the conclusion that the role shift in management accounting essentially means the transition from being oriented around number-crunching and maintaining the overall function of the accounting systems, to an increasingly business-oriented role. The business orientation of management accounting is defined as the personal and organisational desire and ability of management accounting to provide more added value regarding decision-making and control to the management (Järvenpää, 2007, p. 100). Järvenpää's study is one of the rare longitudinal analysis of this topic based on a case study in a multinational company between 1995 and 2001.

Based on a comparable meaning, Weber and Schaeffer's (1999) rationality assuring management accounting approach is based on the classification of the general

management process into volition, enforcement, execution and monitoring. Rationality is defined as “minimising scarce resources (means) to reach a given target (efficiency) or achieving highest fulfilment of targets with given means (effectiveness)” (Guenther, 2013, p. 279). This understanding of rationality can be classified into a result-based rationality, a process-based rationality and an input-based rationality. Even if profit and value orientation are commonly the leading objectives of a company they can be suspended by ethical principles such as sustainability or environmental protection. Generally, the concept of rationality is open concerning the dominating targets of the company. According to the relevant management process phases, rationality can be defined differently. In the phase of volition, it means to find the optimal balance between cognitive (reflection) and experience-driven (intuition) decisions. During the enforcement and monitoring phase, rationality is facilitated by an adequate link of realisation and execution experiences. Furthermore, rationality also interacts with management decisions in other sub-systems (e.g. human resources and organisation), automatically integrating Kuepper *et al.*’s (2013) comprehensive coordination approach.

Another function of this role is that MAs are to support the management in the function of “economic consciousness” and to restrain managers in their activities, if necessary. This means that the MA can be considered as the analytical and reflective counterpart of the frequently intuitive approach of management. Consequently, rationality-orientation does not only include “corporate governance”. However, the rationality-oriented role is not precisely defined in the existing literature. It only hypothesises that the MA should have very broad competencies (Ernst *et al.*, 2008, p. 731).

A synonym of the business support function in this context, is the role of a business partner. It stresses a more collaborative, forward-looking and strategic orientation (Granlund and Lukka, 1998, p. 202). Byrne and Pierce (2007, p. 491) add to the discussion by describing the role of a business partner as acting as a guide or support to senior management decision-making which typically involves preparing financial analyses. Thus, they found that the role of the MA as business partner is still ambiguous for both MAs and OMs. Byrne and Pierce’s study is supported by Pierce and O’Dea’s (2003) earlier publication on the perception of managers to MAs. The research reveals that managers evaluate the future role of MAs as an intensified partnership with

physical proximity to the operative departments, where teamwork and a good business understanding are the core competencies. Their findings suggest that a combined control and partnership role is most common which supports Granlund and Lukka's (1998) findings of the enlarging roles and the notion of hybrid roles (Burns and Baldvinsdottir, 2005). These hybrid roles require a strength of character and can be referred to as "strong" controllers (Sathe, 1983, p. 37). Tensions can emerge due to role conflicts between MAs and managers about the degree of business involvement (Byrne and Pierce, 2007, p. 492).

Lambert and Sponem (2012, p. 579) also call this role partner function. The MA as a partner holds authority and serves mainly local management, but also investors and head office. In order for MAs to be partners with OMs, knowledge needs to be shared between both groups and operative activities need to be understandable. MAs generally enjoy being integrated into the action, as this is not frequently the case working in a support function. However, the partner role can also support a drift in governance with the risk of losing internal control (Lambert and Sponem, 2012, pp. 580–581).

The early preoccupation with the role of a strategic business partner in the US is outlined by Jablonsky, Keating and Heian (1993), who in the early 1990s describe that the role of the MA is changing from corporate policeman to business advocate. A study of the Institute of Management Accountants (IMA) in the year 2003 suggests that the business partner role appears to be reality in many American companies (Siegel, Sorensen and Richtermeyer, 2003b). This interview-based study emphasises the strong change effort which is necessary for a successful implementation of this business partner role. In an earlier publication, Siegel (1999) points out that a better integration of IT systems and the integration of the MA into operative departments give more time to MAs to focus on the support of decision-making, product profitability, sourcing decisions etc. This means that technological progress can be considered as one of the drivers of change towards this role.

Burns, Ezzamel and Scapens (1999) reveal that the MA is more frequently asked to take a business perspective as financial reporting is gradually automatised. This is also supported by Weber and Schaeffer, who are among the main authors of the topic in

German-speaking literature. The majority of their research studies are quantitative and based on the “*controller* panel” which is an annual survey in German-speaking countries (Weber and Schaeffer, 1999; Weber, 2011; Goretzki and Weber, 2012).

To conclude, according to Guenther (2013), the business support role of the MA integrates the other roles discussed previously and can consequently be considered as the most comprehensive of the three analysed roles. Other research considers roles being rather exclusive (Maas and Matějka, 2009) than complementary (Chang, Ittner and Paz, 2014). Apart from these three main roles of the MA, there are also a few other roles which merit at least a short comment in the following paragraphs.

Numerous other roles of the MA have been discussed in literature. Without claiming to be a complete list, some further roles are now presented. In American literature, Sathe (1983) was one of the first authors to study the MA’s role in management. A key proposition of Sathe is that the MA needs to keep the balance between involvement (essential for the management-service role and active engagement in the decision-making process) and independence (required for ensuring integrity of financial information and effectiveness of compliance and control procedures) when performing his tasks. Based on these two characteristics, Sathe defines four roles of the MA: the “involved controller”, the “independent controller”, the “split controller” and the “strong controller” (Sathe, 1983, pp. 35–37). These roles are defined in different degrees and possible combinations of the qualities, involvement and independence.

Pietsch and Scherm (2001) create the reflection-oriented MA’s role based on the rationality-assuring role. Their management accounting system (MAS) focuses on the reflection of decisions and derives the information support function from there. The role of the critical counterpart is easily combinable with this approach, especially when looking at perspective-oriented reflection. Furthermore, Link (2004) develops a so-called contributions-oriented management accounting approach and Lingnau (2004) presents a controlling system approach focusing on cognition processes. Kuepper, Weber and Zuend (1990, pp. 286–287) refer to an American study in the 1950s, that distinguishes the role of the MA as well as an innovator. This role is needed in an extremely volatile environment, where the MA supports problem solving and

manages early warning systems. Thus, the role of the MA as innovator stands out for its future- and strategy-orientation.

Another role explored by Lambert and Sponem (2012, p. 575) is the role of the safeguarding MA. The tasks include reporting, preparing and monitoring budgets which are fulfilled without the implication of operative management and disconnected from daily operative activity. Consequently, the MA holds little authority and is considered as a treasurer serving head office. He might even be considered as a spy from head office in the local management view (Lambert and Sponem, 2012, pp. 576–577). In this philosophy, OMs are fully responsible for their projects and financial impacts. The management accounting profession lacks recognition, has a high staff turnover and is just one position on the career path towards a managing director (Lambert and Sponem, 2012, p. 578). This leads to a lack of standardisation of the MA's role and may result in financial decisions with room for improvement.

Granlund and Lukka (1998) describe the change agent role which is the opposite role to the historian or watchdog function. In this role, the MA can be considered as an entire member of the management team, which can be considered as the maximum imaginable expansion of the MA's role (Granlund and Lukka, 1998, p. 187). Burns and Baldvinsdottir (2005, p. 742) combine the role of the change agent with the term “hybridisation” of management accounting. As change agents, MAs are key-members of the teams and benefit from an expert role. One of their functions is to expel the wastage that might have become accepted over the years. However, this hybridisation is accompanied by a certain number of challenges (e.g. lagging MASs and the physical workplace of the MA) (Burns and Baldvinsdottir, 2005, pp. 743–747).

The main function of Lambert and Sponem's (2012, pp. 582–583) omnipotent role is to centralise power in the hands of head office. As MAs are recruited and trained by “senior controllers” in the head office, a strong network among MAs develops. OMs need to account permanently for their actions with the MA basing his imperative recommendations on these figures. The advantage of this role is that decisions are consistently based on financials, the main problems being a potential hindering of innovations and blocking OMs (Lambert and Sponem, 2012, p. 583).

Sathe (1983) considers the “strong controller” as the best role whatever the context. However, Lambert and Sponem (2012) claim that a powerful management accounting function is not the only way of achieving a financial and control focus. They join Mouritsen’s (1996) findings about competition for consulting activities which means that operative departments organise themselves regarding information flows, management reporting and internal consulting.

Summing up all the above named research on roles of the MA, there is no uniform opinion within management accounting literature about the role of an MA. A dichotomy of roles of the MA distinguishing between business support and bookkeeping (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013) stands versus a more detailed classification of roles of the MA (Kuepper, Weber and Zuend, 1990; Chapman, 1997; Järvenpää, 2009; Lambert and Sponem, 2012). The present study will seek indications if a more dichotomy-based approach is sufficient for the activities of the MA or if further role distinctions are necessary in order to describe the activities and roles of an MA. In addition, the study will illustrate if roles of the MA in the sample organisations tend to be rather complementary or exclusive and might thus further contribute to the findings of Chang, Ittner and Paz (2014).

2.2.2 Summary of critical analysis of relevant management accounting literature

Following the previously mentioned methodology for the literature review (see Figure 2.1), roughly 30 studies regarding role concepts of MAs across different contextual backgrounds were analysed (see Appendix A). The reviewed studies are mainly empirically-based. Among the empirical studies, the majority use qualitative methods. Whereas surveying is the main quantitative approach, interviews and case studies are the preferred qualitative approaches. With regard to the contextual background, the majority of the analysed literature is German-speaking and Anglo-Saxon. As this study uses Germany-based multi-national organisations for the qualitative approach, this complements the existing body of knowledge. Starting in the 1990s, the majority of the underlying management accounting role literature is published after the year 2000,

which highlights the up to date relevance of the topic and the need for ongoing research. It is striking that no real leading source journal can be identified regarding the role of the MA and that sources are very heterogeneous. *European Accounting Review*, *Accounting, Organizations and Society* and *Management Accounting Research* account for half of the publications in focus. This diversity of sources might also be a reason for the heterogeneity of the roles mentioned in management accounting literature.

The following critiques can be applied to the literature analysed above. Firstly, the research to date on the roles of MAs is fragmented in nature (Chapman, 1997; Chenhall, 2003; Byrne and Pierce, 2007). Consequently, a more comprehensive picture of the contemporary roles of MAs is needed. Byrne and Pierce (2007) make the first attempt of bringing together in one study the antecedents, characteristics and consequences associated with the roles of MAs. However, empirical evidence demonstrating clear shifts regarding the roles of MAs remains uncommon (Lambert and Sponem, 2012, p. 565). Secondly, empirical research detects a contradictory set of findings. Some studies claim that MAs play an important part in organisational decision-making processes (Ahrens, 1997), while others claim that the roles of MAs are characterised as not meeting the expectations regarding support of information and extent of involvement in organisational processes (Pierce and O'Dea, 2003; Chenhall and Langfield-Smith, 2007). Thirdly, the majority of research on roles of the MA focuses on individual characteristics (Coad, 1999; Burns and Yazdifar, 2001; Byrne and Pierce, 2007). The underlying study is based on the management accounting function, meaning the set of MAs rather than the individual (Mouritsen, 1996; Järvenpää, 2007). Fourthly, there are some deficiencies in the specific underlying articles. Ahrens (1999) combines case studies in four companies and interviews in ten companies in his role research. He distinguishes well between the Germanic term of *controller* and the English-speaking term of MA, his literature analysis is sound with a historical view starting in the 1970s, and the qualitative research methodology is presented in detail. Nevertheless, the research is restricted to the brewery sector in Germany and the UK. Other research, like a few of the focused articles, is purely literature-based (Burchell *et al.*, 1980; Evans *et al.*, 1996). The literature reviews are sound and mostly based on a large historical analysis of articles. Nevertheless, literature-based research does not sufficiently incorporate the pace of change of the role of the MA and the recency of the topic. The

underlying study will try to add to this body of research, by integrating different sectors and by complementing literature with empirical data. Thus, the next section investigates PMS literature.

2.3 Literature review – PMSs

As the main research objective of this study explicitly deals with the characteristics of a PMS, it is essential to become familiar with existing management control, management control system (MCS) and PMS literature. A PMS in general is considered here as a type of MCS according to the definition of Ferreira and Otley (2009, p. 264) and as discussed in more detail in Section 2.3.4. Ferreira and Otley (2009, p. 267) focus on a framework which can be used in practice as a heuristic tool to facilitate the rapid description of a PMS. This term and a practitioner-oriented definition of a PMS will be maintained throughout the study in order for this research to stay coherent.

This section is structured as follows: First, definitions of the term control will be given. Second, different empirical approaches to organisational control will be discussed and outlined according to a managerial perspective. Third, the evolution of the management control definitions will be reviewed in order to define a PMS. Fourth, different frameworks of PMSs will be investigated. The section concludes by summarising critically the reviewed literature. As the main research objective is about the general interaction of the characteristics of a PMS and the role of the MA and not about specific contextual backgrounds, the impact of inter-cultural context and organisational culture on management control is not focused further here (see also Section 4.7.3).

2.3.1 Definitions of control

Before entering the literature on organisational control, the meaning of the notion of control needs to be investigated in more detail. The term control is a strongly ambiguous expression, as evidenced by Rathe's (1960) connotations variety list and the difficulty of translation into several European languages. Given this variety, some attention will be paid to the definition and setting of boundaries. The Oxford Advanced Learner's Dictionary gives the following definition for the core sense of the verb "to control":

1) to have power or authority over somebody/something

2) to limit or regulate something (Hornby, 2010).

With reference to the underlying research, the first explanation is basically attributed to the management function. In contrast, the second explanation is strongly dedicated to the management accounting function. The Collins Dictionary completes this definition by giving various complementary meanings:

- to command, direct, or rule [...]
- to check, limit, curb, or regulate; restrain [...]
- to [...] operate [...]
- to verify [...]
- to examine [...]
- to restrict [...] (Harper Collins Publisher, 2014).

Etymologically, to control is derived from the Latin noun *contrarotulum* which is glossed as “counter-role” (Mephram, 1986, p. 103) and which could be attributed to one of the functions of the MA. Frequently, a thermostat is used as an analogy for the control process in an organisation. The standard temperature set is the budget, and if there is a deviation between actual performance and the standard, corrective action is taken (Anthony, 1988, p. 8).

Within organisational literature, control is a “central issue” of scientific management as stated by various researchers (Copley, 1923, p. 358; Person, 1929, pp. 10–11; Bedeian and Giglioni, 1974, p. 292). However, management literature experiences “the serious shortcoming of having different meanings in different contexts” (Jerome, 1961, p. 42). Hofstede (1968, p. 9) points out that control “is definitely not synonymous with its original meaning in French: inspection. In several European languages [...] the same word exists, but it has kept the original French meaning”. Consequently, the concept has “scarcely any generally accepted principles, and everyone in the field, therefore, works by intuition and folklore” (Anthony, 1965, p. VII). This variety of meanings can

possibly be considered as a first indication of the lack of common research and common language within management control and management accounting disciplines.

2.3.2 From organisational control to management control

Before plunging into the organisational control literature, it is important to sum up the history of the terms manager and management control and their origins. “A manager is a person who is responsible for obtaining results through the actions of other people” (Anthony, 1988, p. 7). In certain views, management excludes first-line supervisors because they do not use the management control functions that are described later. Taking an analogy from the military, managers correspond to officers, and first-line supervisors to sergeants (Anthony, 1988, p. 7). The term *management* has its roots in the 19th century given that the modern way of leading a company only began to develop after 1830 (Pollard, 1965). Before, no designated field of management and no clearly stated role or task could be found within organisations. Even if bookkeeping existed, the functions dealing with control had not been established. Only when cadets from the American military school at West Point entered the business world in the US, can the first indicators of the management control function be found. The military school was one of the first organisations to introduce a new philosophy of management and educational science that had been inspired by the French *Ecole Polytechnique* (Hoskin and Macve, 1988). The key elements of this philosophy were writing, examination and grading. Even if the function was not called management control at that time, the contents can be recognised as such (Bredmar, 2012, p. 482). During World War II, Harvard Business School trained officers for the army. It was then that the faculty responsible changed the name of this education from “Business Policy” to “Management Control”. The target of this education was the optimisation of management of resources for the war (Vancil, 1989, pp. IX–X). Translated into the current environment, this means to optimise the management of resources for an imminent crisis.

From a historical perspective and focusing solely on management control literature, PMS and management control literature find their roots in organisational control theory (Demartini, 2014, p. 10). Organisational control on a very general level refers to a group

of agents that implements a set of cooperative and coordinated actions in order to perform individual objectives based on organisational objectives (Cyert and March, 1992, pp. 31–32). Based on this general definition, it could be argued that organisational control is related to two main points: the information and accountability system and the behavioural aspect. The first encompasses the “operating rules” of the activities that individuals within the organisation have to accomplish, and the latter involves the “enforcement rules” of motivating managers to achieve organisational goals (Arrow, 1964, p. 398).

According to Hewege (2012, p. 4), three eras of management control research can be discriminated: classical management era, modern control theory dominated by accounting and the post-accounting era. Whereas the management era focused on organisational research, the era of control theory was dominated by accounting, mainly focused on cybernetics and systems theory. Only in the era of post-accounting management control were broader theoretical perspectives such as structuration theory, Foucauldian theory, anthropology (Section 3.3) etc. applied (Hewege, 2012, p. 7). Amat (1991) and Carenys (2012) distinguish three management control research trends with control conception as a formal mechanism, as a psychosocial mechanism and as a cultural mechanism. In contrast to Hewege (2012), they only start their classification in the accounting-dominated era. According to Amat (1991) and Carenys (2012), research initially started on mechanistic and formal control systems, which include the classic theories and contingency theory. The classic theories consider the rational and scientific view of the companies under the assumption that employees are passive subjects, whose performance can be entirely controlled by formal mechanisms. Contingency theory is based on the premise of specific circumstances that define the MCS. Mechanistic systems are characterised by established targets and measurable results in order to take corrective actions if necessary. The key limitation of these systems is that they are difficult to adapt to environmental changes and that they do not take psychosocial aspects of individuals into account (Carenys, 2012, p. 13f).

Looking at the historical development of management control literature, Giglioni and Bedeian (1974, p. 294) identify some early scholars in the domain of management control starting in the 1910s. Following Emerson’s (1912) work, which introduces some

operational control techniques in management, Church (1914) and Fayol (1949) consider control as one of the principal functions of management. Church (1914, p. 81) defines control as “that function which coordinates all of the other functions and in addition supervises their work” whereas Fayol (1949, p. 107) defines it as “verifying whether everything occurs in conformity with the plan adopted, the instructions issued and principles established”.

During the 1920s, the meaning of the management control function is enlarged linking it to planning. Lichtner (1924, pp. 5–6) describes “[p]lanning [a]s the managerial function of working out the best combination of procedures through co-ordinating the requirements with the facilities for carrying out the work of the division. Control is the managerial function of putting these procedures into effect”. The planning and control relationship is supported in more recent research (Anthony, 1965; Kaplan, 1984). It was also in the 1920s that Robinson (1925, p. 147) identifies forecasting results, recording results and the assignment of responsibility to people for expected results as distinct dimensions of control.

During the 1940s, research on management control principally covers functional viewpoints such as operations, business, profit and loss (P&L) and finance (Rose and Farr, 1957). Control can be located at all organisational levels and can be exercised in various ways and to various degrees. While Dent (1934) mainly analyses budgetary control, Trundle (1948) relates to the implementation of control within sales accounting, manufacturing and industrial relations. During the 1950s, the publication of textbooks in this period suggests that management control was integrated in undergraduate programmes and taught in management schools (Fayol, 1949; Davis, 1951; Koontz, 1959).

In the middle of the 1960s, different authors started to write about the concept of management control in a more systematic manner; their research being dominated by accounting and the mechanistic and formal control systems (Bredmar, 2012, p. 482). The starting point was an oral teaching method based on case studies at Harvard Business School (Bredmar, 2012, p. 483). The mostly cited version is Anthony’s (1965) classic definition of management control which is “the process by which

managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organisation's objectives". Anthony (1965) considers management control as a mediator between the processes of strategic planning and operational control: strategic planning focuses on setting goals for the organisation in the long-term; however, operational control focuses on the immediate accomplishment of tasks. Management control links these processes (Anthony, 1988, pp. 10–12). In his time, this definition was considered to be a major theoretical contribution as it supports management control theory being a domain on its own (Chenhall, 2003). In 1988, Anthony (1988, p. 10) slightly revises his definition, calling it a "process by which managers influence other members of the organisation to implement the organisation's strategies". A part of this influence is steered by the remuneration and incentive system of the company (Otley, 2003). However, he excludes the process of staffing from his management control scope, as it is mainly formed by human resource concepts and processes (Anthony, 1988, p. 13). The broader academic interest regarding the concept of management control starts in the late 1960s, when researchers such as David Otley and Tony Berry start investigating this area (Otley, 2003). They were PhD candidates at Manchester Business School at that time and their interest was in Anthony's research (1965). The ongoing work with the concept results in the start of seminars for their doctorates at Manchester. Later, these seminars become the "Management Control Association"; an organisation holding seminars and conferences even today (Otley, 2003). Anthony's management control technique is an accounting-based approach that consists of budget preparation, analysing and reporting financial performance and incentive plans for executives (Chenhall, 2003). This framework suits large multi-divisional, Anglo-American industrial manufacturing organisations that were used as the basis for developing this framework in the 1960s (Hewege, 2012, p. 3). A main assumption of classical management control theory is that economic activities are organised into corporations where the MCS ensures that the work activities and subunits conform to the top managers' objectives and where it supplies the information to enable the managerial hierarchy to correct any deviations from set plans. The relationship between owners, managers and workers is largely seen from the principal-agent perspective (Hewege, 2012, p. 3).

Based on Anthony's work, a framework of management control was accepted by different researchers in the 1970s. It consists of three different processes; namely strategic planning and control, management control and task control (Anthony, 1965, p. 15). Strategic planning and control is defined as deciding on organisational objectives, on potential changes of objectives, on resources to attain the objectives and on policies in the context of these objectives. Management control is the process by which managers ensure that resources are used effectively and efficiently. Task control relates to the control of defined tasks and focuses on execution (Anthony, 1965, pp. 16–18). Around the same time as Anthony's work, cybernetic theory is named as a management accounting theory for effective control. In this context, Tocher (1970, 1976) identifies four conditions for effective control. First, a desired objective is to be set by the organisation. Second, the process outputs in terms of the stated objective should be measurable. Third, the effect of alternative controls needs to be predictable. Fourth, actions need to be taken to avoid deviations from the objective. Hopwood (1974) defines a less "classical" approach to control by distinguishing administrative, social and self-control. While administrative control sticks to the classical approach, social control consists of "the patterns of social interaction" (Hopwood, 1974, p. 26) and stresses a more behavioural approach to control.

In the 1980s, strategic issues emerged in the domain of management and were consequently translated into management control. In this vein, Lorange, Morton and Ghoshal (1986, p. 19) developed a strategic control system defined as "a system to support managers in assessing the relevance of the organisation's strategy to its progress in the accomplishment of its goals and, where discrepancies exist, to support areas needing attention". Consequently, management control and strategic management became more intertwined and strategic management accounting and strategic management control were introduced (Simons, 1995). Other authors like Flamholtz, Das and Tsui (1985, p. 36) define management control as "attempts by the organisation to increase the probability that individuals and groups will behave in ways that lead to the attainment of organisational goals". Their framework of organisational control refers to the process of influencing the behaviour of individuals as members of a formal organisation (Flamholtz, Das and Tsui, 1985, p. 38). The framework distinguishes between the "core control system" which directly influences the behaviour and "control

context factors” with only an indirect influence. Within the “core control system” the cybernetic process starts with the planning activity, which generates a list of targets and challenging standards for the operational subsystem. The outcomes of the latter are measured by the different measurement systems, which provide the information for comparison against the pre-established objectives and standards. Observed deviations are fed back into the operational subsystem for corrective action and into the planning process for target or standard adjustment. A reward system assesses work performance against goals and standards and influences work behaviours. This core control system is embedded in a wider control context which comprises of organisational structure, organisational culture and the relevant external environment (Flamholtz, Das and Tsui, 1985, p. 45). This context might facilitate or inhibit the effectiveness of the core control system depending on the interaction of the factors and work behaviours.

In the 1990s, scholars identified the need to distinguish between financial and management control. While the latter involves “a general management function concerned with the achievement of overall organisational aims and objectives”, the first emphasises “the management of the finance function within organisations” (Otley, Broadbent and Berry, 1995, p. S35). After the year 2000, corporate governance and risk management aspects were continuously integrated into MCSs (Merchant and Van der Stede, 2007). Bhimani (2009, p. 4), for example, asserts that “[p]lacing boundaries on risk-taking and organisational functioning by identifying acceptable variances from predefined parameters of action is fully part of the definition of management control for most modern organisations”. Further authors like Otley, Broadbent and Berry (1995) integrate more volatile environments and define “management control [...as] the process of guiding organisations into viable patterns of activity in a changing environment”. Chenhall (2003, p. 129) links the financial and management control concepts by referring to management accounting as a “collection of practices such as budgeting” and to MAS as “the systematic use of management accounting to achieve some goal”. MCS are defined as MAS as well as other controls like “personal or clan controls”. But, there are also recent narrower views about the definition of management control. Merchant and Van der Stede (2007) define management control as coping with employees’ behaviour. Due to this variety of definitions and perspectives on the topic, Malmi and Brown (2008, p. 290) resume four decades of management control research

and develop a framework of MCSs (see Section 2.3.4 and Figure 2.3). Their definition of MCSs excludes decision-making systems, because they do not hold employees accountable for their behaviour and they do not relate behaviour to objectives (Malmi and Brown, 2008, p. 295).

To conclude, a multitude of definitions has been generated by different authors over the analysed years. The effect of the broadness of meaning of the term “management control” is that

[i]n spite of the fact that management control is one of the basic management functions, there is no comprehensive body of management control theory and principles to which executives can turn for guidance in performing their management control functions (Mockler, 1967, p. 80).

Furthermore, a tendency in research can be noticed to focus on specific aspects of control systems instead of adopting a more integrated approach (Chenhall, 2003; Malmi and Brown, 2008). The above-described evolutionary development illustrates how the control concept starts encompassing new management areas. A similar change takes place in management control due to a shift in management approaches. This change and its impact on PMSs will be discussed in the next section.

2.3.3 From management control towards a definition of a PMS

Starting in the 1970s, different practices as Total Quality Management and Just-in-Time required more efficiency in production processes. As a result, MCSs with new cost management techniques and pressure on performance measurement were introduced. New performance management areas included quality control measures, inventory control measures, material control measures, machine performance measurement, flexibility measures and innovation measurement (Kaplan, 1983; Garrison, 1991). During the 1980s, management control scholars argue for a shift in focus from MCSs based on financial aspects towards performance measures based on drivers for long-term success (Peters and Waterman, 1982). Even if the shift to performance measures supported the new business challenges, the definition of the term *performance* proves to be difficult for the management control scholars. According to Lebas (1995, p. 24), “[p]erformance *per se* may not be definable in the absolute. It is [...] contextual both in

terms of user and in terms of purpose”. Another definition he gives is “performance is about deploying and managing well the components of the causal model(s) that lead to the timely attainment of stated objectives within constraints specific to the firm and to the situation” (Lebas, 1995, p. 29). On the other hand, Simons (1995, p. 5) asserts that performance measurement and control systems are both “formal, information-based routines and procedures managers use to maintain or alter patterns in organisational activities”. In this sense, different scholars develop characteristics to distinguish between different performance measures and performance measurement systems. One way is to distinguish between performance measurement systems at the local and global level (Clivillé, Berrah and Mauris, 2007, pp. 171–172). While the former corresponds to a framework to facilitate decision-making, either to choose or start actions for improvement or to adjust objectives, the latter corresponds to a multi-criteria framework consisting of performance measures and organised with regard to the objectives of the company.

In this context, the Balanced Scorecard (BSC) by Robert Kaplan and David Norton (1992) extends the meaning of performance measurement as it is “a comprehensive framework that can translate a company’s vision and strategy into a coherent and linked set of performance measures” (Kaplan and Norton, 1996, p. 55). Other scholars such as Tuomela (2005) also acknowledge the need for a balanced approach in performance measurement systems and define it as

[...] collections of financial and/or non-financial performance indicators that managers use to evaluate their own or their unit’s performance or the performance of their subordinates (Tuomela, 2005, p. 297).

But what is the link between performance measurement and a PMS? Some definitions attempt to clarify the gap between performance measurement systems and PMSs in the literature. It is important to stress that research on performance measurement systems is more comprehensive than research on PMSs (Broadbent and Laughlin, 2009, p. 283). The terms performance measurement and PMS are commonly used. However, the meaning can differ substantially. It has been claimed that PMS concepts seem to be taken-for-granted concepts as they are only defined explicitly in 30% of the literature analysed by Demartini (2014, p. 46). Simon (1947) identifies three functions of

management accounting information which are decision-making, attention-directing and scorekeeping. While a performance measurement system accomplishes only the last function, a PMS fulfils all three functions.

In the context of management control literature, “PMSs 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 and Laughlin, 2009, p. 283). Hopen (2004, p. 15) defines a PMS as

[...] a daily management system that ensures an organisation accomplishes its vision and becomes a high performing entity. [...] It [i]s based on a systematic approach. [...] It focuses on assigning work, enabling work to be carried out as planned, and evaluating performance. [...] It leads to mutual success.

Other definitions are given by scholars like Otley (1999, p. 367) who define a PMS as

[...] a major mechanism that can be used to make explicit the set of means-end relationships that the organisation has developed as the methods it will use to implement its strategic intent.

In a slightly edited version, Otley (2001, p. 250) stated that a PMS

[...] provides an umbrella under which we can study the more formal processes that organisations use in attempting to implement their strategic intent, and to adapt to the circumstances in which they have to operate.

Abernethy and Chua (1996, p. 573) define it as

[...] a system that comprises a combination of control mechanisms designed and implemented by management to increase the probability that organisational actors will behave in ways consistent with the objectives of the dominant organisational coalition.

A more developed concept is developed by Ferreira and Otley (2009, p. 264), who define a PMS as

[...] the evolving formal and informal mechanisms, processes, systems, and networks used by organisations for conveying the key objectives and goals elicited

by management, for assisting the strategic process and ongoing management through analysis, planning, measurement, control, rewarding, and broadly managing performance, and for supporting and facilitating organisational learning and change.

In order to encompass a more strategic focus, Ittner, Larcker and Randall (2003, p. 715) discuss strategic performance measurement systems that

(1) provide information that allows the firm to identify the strategies offering the highest potential for achieving the firm's objectives, and (2) align management processes, such as target setting, decision-making, and performance evaluation, with the achievement of the chosen strategic objectives.

Chenhall (2005) points out that the configuration and characteristics of these strategic systems are not widely explored yet. He describes a strategic performance measurement system as “designed to present managers with financial and non-financial measures covering different perspectives which, in combination, provide a way of translating strategy into a coherent set of performance measures” (Chenhall, 2005, p. 395). In addition, several more specific perspectives have recently been focused like a research and development (R&D) or customer relationship management (CRM) perspective as well as an environmental and corporate social performance measurement (Demartini, 2014, pp. 39–40).

On the other hand, a PMS is, for example, frequently used in the context of human resource management (HRM) systems and used synonymously with performance appraisal. This HRM performance appraisal is composed of:

- objective-setting: planning work and setting expectations,
- performance coaching: continually monitoring performance, developing the capacity to perform,
- final review: evaluating and rewarding performance (Armstrong and Baron, 2005, p. 14).

In the underlying study, performance management is chosen instead of performance measurement, as it promises to build a more comprehensive framework. As mentioned

above, the analysed literature specifies in only 30% of the cases an explicit definition of the term or refers to a specific concept (Demartini, 2014, p. 46). This study, however, wants to specify a definition and uses Ferreira and Otley's (2009) general PMS definition, as it is a current definition and it designs a comprehensive and extendable framework (see Section 2.3.4). As mentioned in Section 2.2, behavioural aspects are not the focus of this study. Consequently, the following section will only focus on PMSs, which refer to the research objective of detailing characteristics of a PMS and which give potential indicators for interaction with the role of the MA.

2.3.4 Relevant concepts of PMSs

The following paragraphs detail extant PMS research, which is potentially relevant for investigating the interaction of the PMS characteristics with the role of the MA. PMSs including non-financial measures, strategy-driven PMSs and PMSs as a framework are examined in more detail.

The following paragraphs describe a PMS as including non-financial measures. A reliance solely on accounting measures has been criticised since the publication of *Relevance Lost* by Johnson and Kaplan (1987). According to their research, management accounting information driven by the financial reporting system is "too late, too aggregated, and too distorted to be relevant for managers' planning and control decisions" (Johnson and Kaplan, 1987, p. 1). Timeliness is important for an intervention as soon as variances occur (Johnson and Kaplan, 1987, p. 3). Aggregated performance measures inhibit the ability to find the source of variances (Johnson and Kaplan, 1987, p. 194). Many researchers argue that financial pressure on management control lead to short-termism (Johnson and Kaplan, 1987, p. 196). A first argumentation for the need for non-financial and balanced performance measures is given in the last chapter of Johnson and Kaplan's book, where they stress the "importance of non[-]financial indicators"; that is indicators that should be based on the firm's strategy and include key measures of "manufacturing, marketing and R&D success" (Johnson and Kaplan, 1987, p. 256). They argue that "[s]hort-term financial measures will have to be replaced by a variety of non[-]financial indicators that provide better targets and predictors for the firm's long-term profitability goals" (Johnson and Kaplan, 1987, p. 259).

Based on this analysis, Kaplan and Norton developed the BSC, which “provides executives with a comprehensive framework that translates a company’s strategic objectives into a coherent set of performance measures” (Kaplan and Norton, 1993, p. 134). The authors criticise the management of the decade for a lack of measurement of strategic indicators that drive organisational performance to an effective strategy implementation. The BSC includes four main perspectives, which encompass both financial targets and non-financial performance measures. The latter are grouped into internal business, customer and innovation and learning perspectives. Each of these perspectives are linked to one another in a cause-and-effect relationship. In particular, the financial perspective drives the overall strategic objectives; the customer perspective drives the financial perspective; the internal business perspective drives the customer perspective; and the learning and growth perspective drives the customer perspective. Kaplan and Norton stress that each user of the BSC should adjust the number and focus of perspectives and their measures to the business environment and case. Consequently, the number of perspectives can be different from four and the focus can be changed according to the strategic issues that the firm or unit has to monitor in order to be successful (Kaplan and Norton, 1993, pp. 135–136).

The main strengths of the BSC tool are the focus on multidimensionality in management accounting and the tight performance-strategy relationship. It is also flexible as the BSC model can be easily customised regarding both the number and content of perspectives (Demartini, 2014, p. 64). Despite these advantages, the management accounting literature identifies a few inconsistencies. It does not consider the time lag between the input in the cause variable and the output in the effect variable. Otley (1999, p. 375) criticises the conceptual formulation of the BSC as relationships between perspectives are not always linear. Malina and Selto (2001, p. 75) criticise the top-down approach of the BSC by identifying the corporate mission, vision and strategic goals, and subsequently the drivers in the four areas. Another criticism concerns the empirical usefulness of the BSC, as studies suggest that the implementation of the tool does not show significant performance improvements (Neely, 2008, p. 22). Additionally, Ittner, Larcker and Randall (2003, p. 739) find that the model has frequently been used differently from the authors’ intent. All the above

named deficiencies are reasons why a PMS including non-financial measures is not considered sufficient for the underlying study.

The following paragraphs detail a strategy-driven PMS. During the early 1990s, Robert Simons developed a framework for control that provides a “new, comprehensive theory for controlling business strategy” (Simons, 1995, p. 3). His framework criticises the hierarchical or military model of “command and control”, where top management defines the strategy to be implemented throughout the whole organisation (Simons, 1995, p. 19). Simons stresses that strategy setting can also be organised as a bottom-up process – i.e., an emergent strategy – and that a process of “balancing intended strategy and emergent strategy” should be defined in order to implement a strategy for long-term survival (Simons, 1995, p. 20). Simons clearly stresses that the effectiveness of the framework does not derive from the technical design of each system, but from the use that managers make of these systems (Simons, 1995, p. 5). The framework consists of four systems, called “levers of control” (LOC) which will be detailed in the following paragraphs: i.e. beliefs systems, boundary systems, diagnostic control systems and interactive control systems.

Beliefs systems assure the coherence between strategy and organisational values. Therefore they develop an explicit set of definitions “that senior managers communicate formally and reinforce systematically to provide basic values, purpose and direction for the organisation” (Simons, 1995, p. 34). A good fit between corporate values and strategy supports the alignment of objectives between the single employee and the organisation, which is a basic condition for achieving organisational targets. Beliefs systems stimulate managers in their creative research activity with the aim of producing new value for the organisation they belong to. In order to steer this research activity towards productive activities, restraints need to be placed on employees which establish limits of activity (Simons, 1995, p. 39). These restraints are called boundary systems.

Boundary systems handle avoidable risks and demarcate managerial action by setting limits to the creativity that managers could use in finding new solutions to problems or discovering unpredictable opportunities to create organisational value. This kind of approach balances the benefits and dysfunctions from managerial creativity, as beliefs

systems confine the “opportunity domain as a subset of opportunity space within which organisational participants can exercise their energies” (Simons, 1995, p. 41). Their effectiveness is directly linked to punishment and sanctions as rewarding conformity does not suggest being efficient (Simons, 1995, p. 52). Boundary systems are frequently communicated by a code of conduct, while beliefs systems are articulated using a mission or vision statement (Widener, 2007, p. 259).

Diagnostic control systems concentrate on feedback controls, i.e. “formal information systems that managers use to monitor organisational outcomes and correct deviations from present standards of performance” (Simons, 1995, p. 59). Many management control tools such as budgets, business plans, standard cost accounting systems and management-by-objectives, are diagnostic control systems. Strategy is implemented by comparing the planned value of relevant performance variables with the actual level. On the one hand, diagnostic control systems prevent innovation and opportunity-seeking and on the other hand, they assure the achievement of predictable targets and reduce variety. “Managing the tension between creative innovation and predictable goal achievement is the essence of management control” (Simons, 1995, p. 91).

Interactive control systems emphasise innovation development because they “stimulate search and learning, allowing new strategies to emerge as participants throughout the organisation respond to perceived opportunities and threats” (Simons, 1995, p. 91). Managers at all organisational levels use them and a lot of managerial attention is given to the information they provide. Meetings between superiors and subordinates permit the regular check of action plans and assumptions concerning environmental changes. Thus, interactive control systems form strategies over time.

More recent research identifies the relationships between the four levers. Widener (2007, p. 781) shows that interactive control systems influence the boundary and diagnostic systems and that the beliefs system affects each of the other three. Although Simons’ work is one of the most comprehensive frameworks to develop the linkage between management control and strategy, other scholars evaluate it as being ambiguous. Firstly, it does not investigate whether or not the use of interactive control systems makes companies more innovative or drives innovative companies to perform

successfully (Bisbe and Otley, 2004, p. 709). Secondly, Henri claims that Simons' framework does not define an explicit distinction between organisational learning and innovation (Henri, 2006, p. 548). Bisbe, Batista-Foguet and Chenhall (2007, p. 795) criticise the framework because the definition of interactive control is not linked to the related theory and emerges from practice. Furthermore, the LOC framework takes objectives and strategy as a starting point. As many organisations satisfy the needs of non-financial stakeholders and the assumption of consistent variables is not realistic in certain contexts, the purely strategy-oriented approach is considered problematic (Li and Tang, 2009, p. 204). Tuomela (2005, p. 293) establishes a case study on a Finnish subsidiary of ABB in order to analyse the use of their PMS and discovers a few difficulties regarding the use as an interactive control system. These difficulties are the resistance to the introduction of new non-financial measures and the time spent gathering data and discussing the results. All the above named deficiencies are reasons why the LOC framework is not used as an underlying PMS concept for this study.

PMSs have also been described as a management or organisational control package and date back to the 1980s when scholars realised that the term system implies a too rational perspective. The term package implies that "[d]ifferent elements are added by different people at different times" (Otley, 1999, p. 379). The controls, in their entirety, are not defined holistically as a single system, but as a package of systems (Malmi and Brown, 2008, p. 291) instead. As dynamic sets of control mechanisms replace static sets, the concept brings up a different research perspective (Otley and Berry, 1980). A related concept is the concept of "control mix" which is introduced by Abernethy and Chua who determine the MCS as an organisational control mix, emphasising that "the strategic choice of this mix is influenced by the organisation's institutional environment" (Abernethy and Chua, 1996, p. 570). Even if the authors criticise the contingency perspective, they acknowledge that the context directly impacts the PMS design. As the organisation can choose from a variety of PMSs, the authors analyse how organisations pick the control mechanisms that shape their integrated control package. A control system works as a package when it is "internally consistent", i.e. it is "designed to achieve similar ends" (Abernethy and Chua, 1996, p. 573). Similarly, Gerdin (2005, p. 100) stresses that "management control subsystems may not only complement each other but also substitute for each other". The package aspect is also drawn upon by

Cooper, Ezzamel and Robson (2018) who investigate the interaction of control systems with multiple control mechanisms. They find though, that the metaphor of package is not specific enough in order to describe the various levels of interdependence of the set of PMS mechanisms.

This control package perspective has been adopted by a few scholars who introduced their management control frameworks. In order to understand Ferreira and Otley's (2009) framework, one needs to go back in time to 1999 when Otley developed a first basic performance management framework based on five key areas:

- existence and assessment of organisational objectives
- formulation and implementation of strategies and plans
- existence and evaluation of performance targets
- implementation of reward systems
- implementation of adequate information flows and feedbacks in order to ensure the four key areas above (Otley, 1999, p. 378).

As the framework was not considered to be complete and as research was considered to be fragmentary regarding performance management, Otley continued his research on the subject. In 2009, he published a PMS framework together with Ferreira. This model seeks to provide a tool for a holistic empirical research on MCSs for profit and non-profit organisations. It is based on Otley's five key areas and combines Simons' LOC framework. It integrates twelve areas for performance management which are shown schematically in Figure 2.2. The aspects of organisational culture and contextual factors (outer circle of Figure 2.2) are not explicitly addressed by the twelve questions. They are considered more as contingent variables¹ and not as characteristics of the control system that need to be integrated into a description. In their view, the term PMS stresses a shift to a broader perspective of control in managing organisational performance and gives managerial emphasis (Ferreira and Otley, 2009).

¹ Term originally used by Ferreira and Otley (2009) and is not taken in a positivist sense throughout this study.

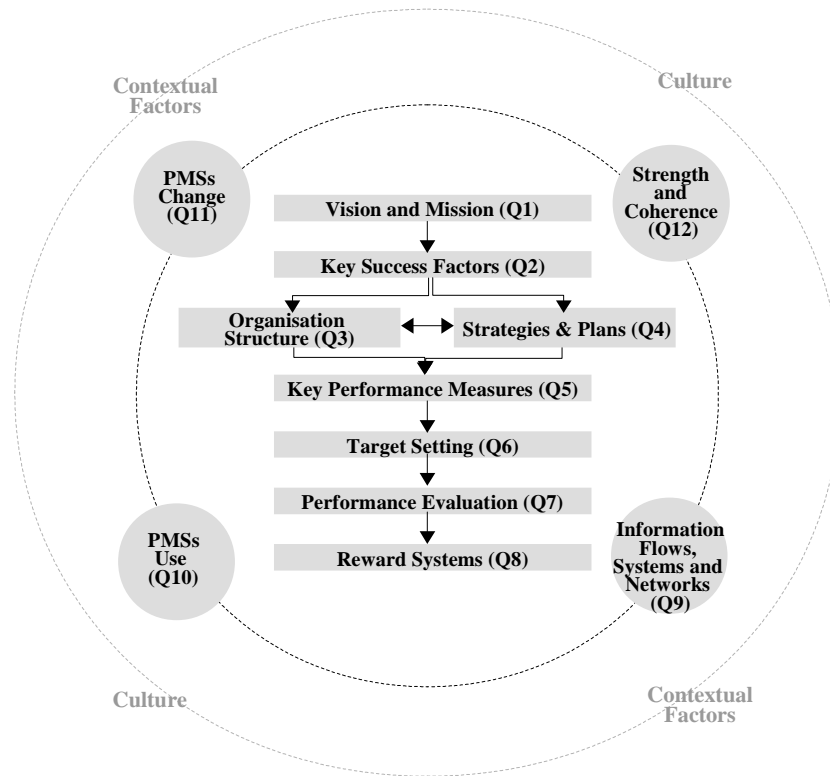


Figure 2.2: PMS framework according to Ferreira and Otley (2009, p. 268)

The twelve characteristics are now described. *Vision and mission statements* serve to give a broad orientation or a global direction that organisations wish to follow. The vision describes the “desired future state: the aspiration of the organisation” while the mission is defined as the “purpose of the organisation in line with the values or expectations of stakeholders” (Johnson, Scholes and Whittington, 2008). *Key success factors* (KSFs) are a concretion of the vision and mission in a more condensed time-frame and are important in the perception of the managers concerned (Ferreira and Otley, 2009, pp. 268–269). *Organisation structure* determines the accountabilities and responsibilities of individuals within the organisation. It also defines the activities that should not be paid attention to (Ferreira and Otley, 2009, p. 269). Strategy and organisational structure are mutually interdependent in that they support and constrain each other (Ferreira and Otley, 2009, p. 270). *Strategy* is the long term direction the organisation chooses to follow in order to attain organisational targets (Johnson, Scholes and Whittington, 2008). One important element is to achieve alignment by the translation of strategic goals into operating goals (Chenhall, 2003, p. 150). *Key performance measures* are the financial or non-financial indicators and measures applied at different organisational levels to evaluate target achievement. *Target setting*

includes the tension for the target determination between what is expected and what is feasible in terms of organisational performance (Ferreira and Otley, 2009, p. 271). *Performance evaluation* does not concern solely individual performance evaluations, even though they are most observable. It also includes the evaluation of groups of individuals and the total organisation. Relative performance evaluation (RPE) is an alternative in order to eliminate distortions in target achievement generated by factors that cannot be controlled (Chenhall, 2003). *Reward systems* are the logical next step to consider after performance evaluation, even if the relationship between rewards, motivation and performance is complex. Rewards are broadly considered and financial rewards as well as promotion are recognised by senior management. *Information flows, systems and networks* are the binding element that link the whole system. Information flows aiming at the correction of past problems (feedback) can be distinguished from those which try to anticipate and avoid future shortcomings (feed-forward) (Ferreira and Otley, 2009, p. 272). The characteristic of *PMSs use* is constituted of controls and information as a key element of the PMS. It can even be more significant than the design of the control system itself (Ferreira and Otley, 2009, p. 273). *PMSs change* is becoming increasingly important as the rate of change accelerates. It focuses on delays in PMS design which lead to incoherencies (Ferreira and Otley, 2009, p. 274). *Strength and coherence* are another key element. A PMS ought to be greater than the sum of its single parts. Thus, even if the individual components of the PMS are well-designed, problems can occur if the components do not fit together. This research framework can enable practices to be documented and correlated with other variables (Ferreira and Otley, 2009, p. 275). Nevertheless, the framework only provides a descriptive framework to judge the use and design of a PMS.

At the same time, drawing on 40 years of management control research, Malmi and Brown (2008, p. 291) developed a broad framework of five types of controls, namely planning, cybernetic controls, reward and compensation, administrative controls and cultural controls (Figure 2.3). Malmi and Brown compared their framework with Merchant and Van der Stede's "object of control" framework (Merchant and Van der Stede, 2007). It focuses on the broad scope of the controls in the PMS as a framework rather than the depth of discussion of individual components (Malmi and Brown, 2008, p. 291). Planning can be defined as a form of control ex ante. Planning activities are

split into operational action planning for a 12-month period and strategical long-range planning. Planning directs behaviour and effort by setting goals to the functional areas of the organisation. Additionally, it points out the level of behaviour and effort expected by providing standards. Lastly, it aligns goals of the organisation, thereby enabling congruence of objectives and controlling activities of individuals (Malmi and Brown, 2008, p. 291). Cybernetic controls consist of five processes, according to Green and Welsh (1988). Measures permit quantification and objectives provide standards to be achieved. A feedback process permits comparison of the result with the objective and leads to an analysis of variances. As a result corrective action can be taken. In the language of management control literature the components would be called budgets, financial and non-financial measures and hybrids. Reward and compensation are used to increase performance and motivation in order to control the efforts of employees (Flamholtz, Das and Tsui, 1985, p. 40). Administrative controls are composed of organisation design and structure, governance mechanisms and policies and procedures (Simons, 1987). Cultural controls describe the social norms, beliefs and values established to influence behaviour (Malmi and Brown, 2008, p. 292). An overview of the framework is shown in Figure 2.3.

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	

Figure 2.3: PMS framework according to Malmi and Brown (2008, p.291)

Even if Malmi and Brown's (2008) framework provides one of the first designs of a PMS, it suffers from a few conceptual shortcomings as revealed in the literature (Ferreira and Otley, 2009, p. 265). The attribution of budgeting to cybernetic control

instead of action planning is misleading, as budgeting defines goals in terms of actions and the authorised target lines of each functional budget for the future period (Demartini, 2014, p. 75). Another critique is that not all of the identified components of cultural control are necessarily under managerial control. Clan control is e.g. performed by an organisational group of peers who share common beliefs (Ouchi, 1979, p. 837). Controlling these types of beliefs is frequently beyond the manager's authority. Furthermore, the relationships between the different classes of control are not sufficiently specified. Cultural controls reflect a contextual frame for more specific controls which set the basic principles for operational controls, i.e. administrative controls. In conclusion, the perspective of a PMS as a framework provides a holistic view of a PMS, which tries to eliminate partial views of PMS research. However, systemic connections between the PMS mechanisms should be measured in order to find out how they affect the overall system's usefulness (Demartini, 2014, p. 76).

To conclude, the idea of a PMS framework appears the most comprehensive one. Despite some of the above mentioned shortcomings, it will be used for the underlying study for the following reasons. Ferreira and Otley's (2009) framework provides a tool which researchers can employ to describe the structure and use of the system of controls. It is a structured, literature-based approach which requires further empirical evidence through case study research to assess its robustness and adequacy (Ferreira and Otley, 2009, p. 276). It provides a good means of obtaining an overview of the PMSs that are currently used in profit or non-profit organisations. Additionally, it renders the connections between the components and sub-systems transparent (Ferreira and Otley, 2009, p. 277). Furthermore, other scholars consider the framework to be useful for their PMS research (Collier, 2005; Broadbent and Laughlin, 2009). Another advantage is that the framework is open for extension which permits the integration of new aspects during the course of the study. Last but not least, Ferreira and Otley (2009, p. 274) explicitly ask for the development and further operationalisation of the concept of use and further research which shall also be targeted by this study. Also, they consider it useful as a diagnostic tool for practitioners (Ferreira and Otley, 2009, p. 279). All these reasons support the use of the framework for this thesis.

2.3.5 Summary of relevant PMS literature

Following the methodology for the literature review summarised in Figure 2.1, approximately 50 articles with the topic PMS were analysed (see Appendix B). The reviewed studies were mainly literature-based. Among the few empirically-based studies, both quantitative and qualitative approaches were used. While the case study or field study is the preferred qualitative approach, the survey is the main quantitative approach. The majority of the underlying PMS studies were published after the year 2000 and only 30% before the year 2000 which suggests the more recent interest in the topic and the need for ongoing research. The main source of PMS literature is the journal *Accounting, Organisations and Society* followed by *Management Accounting Research* which account for less than 40% of the articles defined as relevant. However, it is striking, that no other leading source journal can be identified and that sources are very heterogeneous. This may be a potential reason for the heterogeneity in theory in PMS literature and the lack of common definitions as asserted by Chenhall (2003), Bredmar (2011, 2012), Strauss and Zecher (2012), Harrison and McKinnon (1999). The underlying study attempts to give transparency to the existing definitions and empirical literature. With regard to the contextual background, two thirds of the analysed literature on PMSs is Anglo-Saxon literature for both the literature research as well as for the underlying survey or interview. As this study uses a more Germany-based panel for the qualitative approach, it might complement the existing body of knowledge in this sense.

In this body of literature, scholars themselves frequently criticise various other aspects of the existing performance management literature. Widener (2007) asks for further research regarding the interaction of management control models as substitutes or complements. This aspect might be implicitly treated in the underlying study, as the interaction with the role of the MA will also show complementary or substitutional elements. Another point Widener misses in existing literature is the evaluation of cost and benefits of control systems. This aspect may be partially covered by the underlying study, as a positively connoted role of the MA can be considered for example as a benefit. Another criticised point by Henri (2006) and Franco-Santos, Lucianetti and Bourne (2012) is the lack of existing research on the contribution of a PMS to organisational performance. This remains another future open area of research as the research objective of this study does not cover this aspect. As a further critique, Malmi

and Brown (2008) claim that PMS frameworks need to be more deeply investigated. The underlying research might cover this gap by analysing the existing literature regarding PMS frameworks and complementing them based on the study data. Chenhall (2003) mentions that there is a large body of literature on contingency approaches to MCS. However, these contingency approaches need to be complemented by contemporary relevance and “alternate theories”. The underlying study uses role theory (see Section 3) which has not yet been frequently used in PMS research. The next section gives an overview of the existing interdisciplinary literature linking PMSs and the role of the MA.

2.4 Summary of literature linking PMSs and the role of the MA

The literature for this section is mainly based on the relevant literature analysed in Sections 2.2 and 2.3, particularly focusing on potential links within the literature. In addition, the remaining articles of Figure 2.1 were screened for potential hints on research gaps detailing the interaction of the PMS characteristics and the role of the MA. Before looking at the existing literature linking a PMS and the role of the MA, it is important to point out that tribalism exists within the disciplines which means that top tier journals and authors of the disciplines management or management accounting tend to treat management control separately (Euske, Hesford and Malina, 2011, p. 278). This tribalism is investigated in a quantitative study looking at literature between 1981 and 2005. The reasons for this separation could be the relatively narrow structure and specialisation of doctoral training, the relative knowledge of economics, a lack of academic demand and recognition for publications in other disciplines or other unmentioned reasons (Euske, Hesford and Malina, 2011, p. 279). In the citation or cross-citation structure between the two disciplines, Euske, Hesford and Malina (2011) investigate that management researchers are less likely to quote accounting researchers than *vice versa*. The lack of communication between the disciplines could also be based on the breadth of topics that are considered to be part of management control (Euske, Hesford and Malina, 2011, p. 279). As a similar finding, Parker (2012, p. 66) explicitly states that “[...] questions of [how the] organisational control systems, management accounting and performance measurement and management interact, remain outstanding”. He also acknowledges that performance management remains an area of

continuing importance. Also, having observed the scope for greater involvement of MAs in business processes, Chenhall and Langfield-Smith (1998, p. 383) call for more research on “ensuring effective interaction between operational personnel and accountants”. In addition, Schleicher *et al.* (2018, p. 2230) stipulate further research on the examination of interdependencies between the individuals with multiple roles in the PMS and on the examination of multiple PMS components.

In this sense, Byrne and Pierce (2007) are two of the few authors who partly link both strands of literature. Their study identifies a comprehensive set of antecedents and characteristics with respect to the roles of MAs and explores the consequences of how these roles are discharged (see Figure 2.4). According to Byrne and Pierce (2007), the roles of MAs are perceived by both MAs and OMs as being influenced by performance systems. These systems operate on an individual level (personal goals and objectives) and on an organisational level (annual budget and forecasting processes). The role itself can be explained based on role theory (see Section 3.2.7 for further explanation). However, they identify performance management only as one antecedent among others (Figure 2.4) and do not investigate the question of how and why PMSs interact with the role of the MA in more detail. This question is the focus of the underlying research.

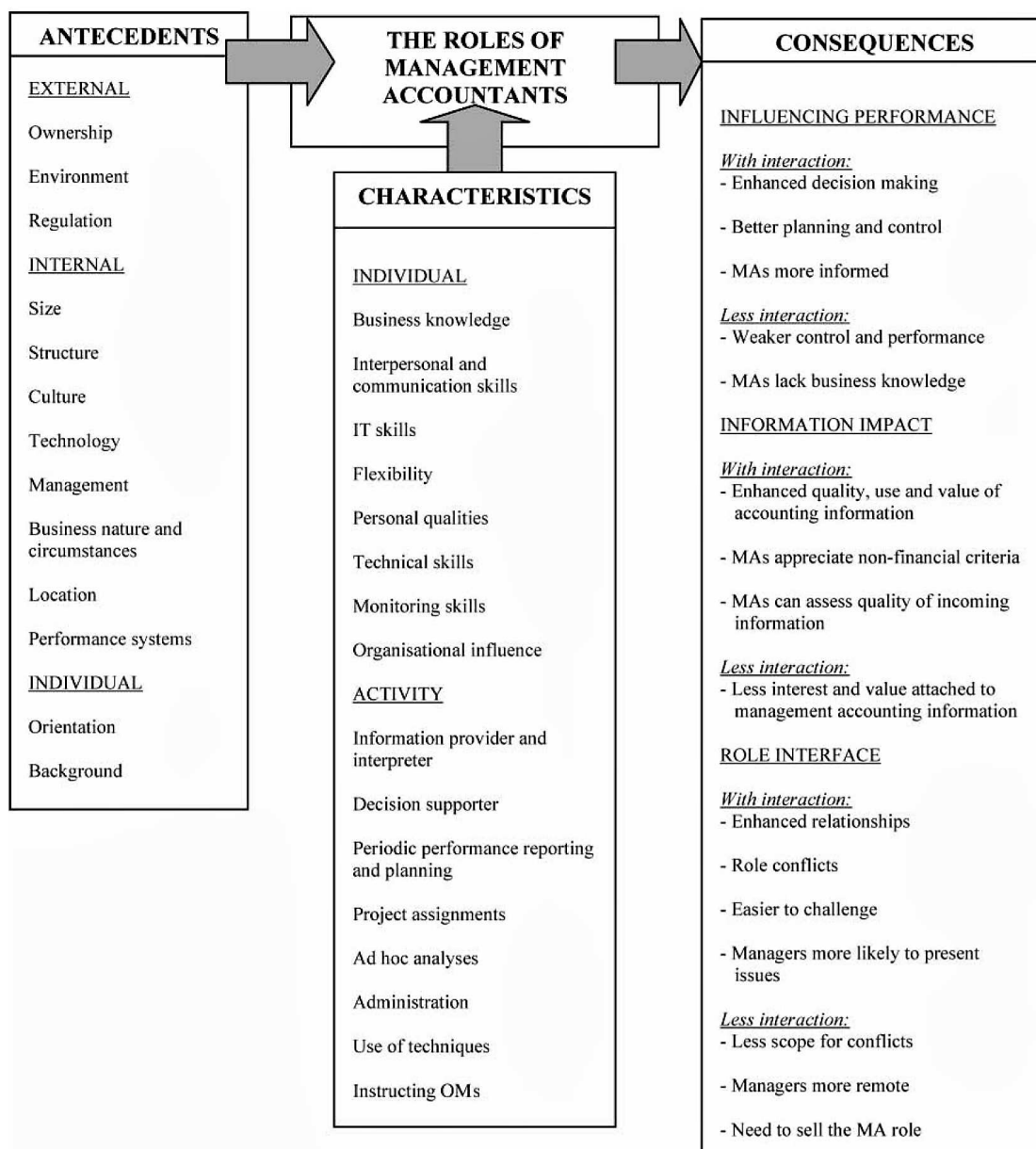


Figure 2.4: Antecedents, characteristics and consequences of the role of the MA according to Byrne and Pierce (2007, p. 488)

From a broader perspective, interdisciplinary research on management control could look beyond boundaries and it might be interesting for future researchers of the disciplines to build a common discourse community with regard to interdisciplinary topics. This broader research should of course be complementary and not substitutional by using different theoretical underpinnings and by generating new types of research gaps (Euske, Hesford and Malina, 2011, p. 280). Thus, one of the objectives of this research study is to overcome these boundaries and to make an attempt at

interdisciplinary research on management control based on the interaction of characteristics of a PMS with the role of the MA (see research objective in Section 1.2).

2.5 Chapter summary

This chapter presented the literature review pertinent to this thesis. The chapter began with an overview about the roles of MAs according to the body of literature (Section 2.2). While the field has experienced rapid growth over the last decades, the definition of roles of the MA remains heterogeneous. Several definitions were discussed and criticised based on the structure of the scorekeeping, controlling and business support function detailed by Järvenpää (2007). The study data in Sections 5.2.2, 5.3.2 and 6.2 might give further input and directions. Next, Section 2.3 presented an overview about the historical development and definitions of MCS which was operationalised as a PMS for this research. It focused on Ferreira and Otley's (2009) framework with the 12 characteristics which are considered the basic framework for the overall research objective of this study. These characteristics are only partly operationalised by Ferreira and Otley (2009) and might be further detailed based on the study data in Sections 5.2.3, 5.3.3 and 6.3. Section 2.4 summarised the existing body of literature with the interdisciplinary research in the field of the main research objective. Based on the interaction of the characteristics of a PMS and the role of the MA, Byrne and Pierce's (2007) study detailing the antecedents of the roles of the MA is revealed as particularly interesting. The next chapter (Chapter 3) discusses the theoretical framework applied to this research.

CHAPTER THREE: Theoretical framework

3.1 Introduction

A theory is necessary in order to achieve understanding – to “organise [...] thoughts, generate coherent explanations, and improve [...] predictions” (Hambrick, 2007, p. 1346). According to Gioia and Pitre’s (1990, p. 587) broad definition, “theory is any coherent description or explanation of observed or experienced phenomena”. As management accounting is a more practice-driven field and not theory itself, it generally applies a broad range of theoretical disciplines. Economics (Scapens, 1994), psychology (Kenis, 1979), sociology (Hopwood, 1973) and political science have been used to provide valid explanations for observed management accounting practices. In order to understand these practices, research requires a variety of perspectives rather than a simple economic point of view (Ittner, Larcker and Meyer, 2003, p. 754). For any research work, a researcher needs to decide between several potentially viable theoretical approaches to guide the research. Before making a choice of theory, different theories have been considered to evaluate their potential value for the underlying research objective (see also Section 3.3).

The structure of this chapter is the following. Firstly, basics of role theory and existing role theory studies will be reviewed, supported by arguments why role theory best informs the underlying research objective (Section 3.2) and research strategy (Section 4.6). Then, other potential theoretical perspectives are described and reviewed. The theories were selected based on a literature analysis, drawing on Granlund and Malmi’s (2009) analysis of the main theories used in top tier management accounting journals, complemented by a study of Baxter and Chua (2003) on alternative management accounting research and based on the research objective. A short analysis of these further theories in Section 3.3 will suggest that they are less suitable for this research due to not fitting to the research objective of this study.

3.2 Role theory as basis for the empirical study

After an extensive review of potential theories, the following section focuses on role theory as the underlying theory of this study. Before diving into the depths of role theory, it is important to understand that role theory is not one unique body of theory. It is the title for a plethora of analysis of human interactions (Joas, 1973, p. 9). It is important to stress that role theory involves a certain vocabulary and categories, but that these categories are a means to an end but not an end in itself (Joas, 1973, p. 11). The following sections describe the etymology and history of role theory, existing perspectives, concepts as well as terminology, the role episode model as a research framework and existing criticism. To conclude, an analysis of role theory used in management accounting literature is presented.

3.2.1 Etymology of the term role and history of role theory

This section deals with the original explanation of the term role, as well as the historical development of the theory and the activities linked with the historical steps. The word role has its origins in Latin as *rotula*, the round and wooden dowel on which sheets of parchment are fastened. The same term is used later to signify an official volume of papers for law courts. As a next step, parts of theatrical characters are read from “roles”. Currently, role is either a part played by an actor or a function assumed by a structure or person. Another source of role concepts has been specialised fields like the theatre and law. Sanctioning and terms such as law, norm and custom are borrowed from legal models (Biddle, 1979, p. 9).

Historically, in contrast to other theories, role theory has its origins in several social sciences. This is why it is said to build a bridge between social psychology, sociology and anthropology (Biddle, 1979, p. IX). It serves as a unifying meeting ground among different disciplines. Role theory was developed in the late 1920s and early 1930s by researchers such as social philosopher George Herbert Mead (1934), anthropologist Ralph Linton (1936) and psychologist Jacob Moreno (1934). These three are considered to be the founders of role theory – even if they worked independently of each other.

Three stages in the development of role theory can be distinguished. A pre-cursive stage, a stage of conceptual development and a stage of empirical research. The first stage (before the 1930s) mainly developed the terms and vocabulary of role theory. In psychology, the concept of identity is investigated by James (1890, pp. 330–336) and the terms habits and play (in the sense of role playing) are analysed by McDougall (1908, p. 354). Sociological authors like Simmel (1908, pp. 35–41) introduced the role vocabulary in the sense of a social role. The second development stage (after the 1930s) formalises concepts and applies them to the discussion of different social topics. Mead (1934) laid the basis for the theory of symbolic interactionism in this period. He analysed the origins and impacts of behaviour and communication and introduces the concept of role-taking (see Section 3.2.3). The anthropologist Linton (1936, p. 113) brought up the ideas of status and role. The sociologist Parsons defined role as “the concept which links the subsystem of the actor as a psychological behaving entity to the distinctively social structure” (Parsons, 1954, p. 230). The third stage (after 1950s) applies role theory to different contexts from a practical point of view (Biddle, 1979, p. 10). It reached its peak in the 1980s, where at least 10% of the articles published in sociological journals contain the term role (Biddle, 1986, p. 76). Figure 3.1 gives an overview of the number of publications regarding roles in comparison to groups.

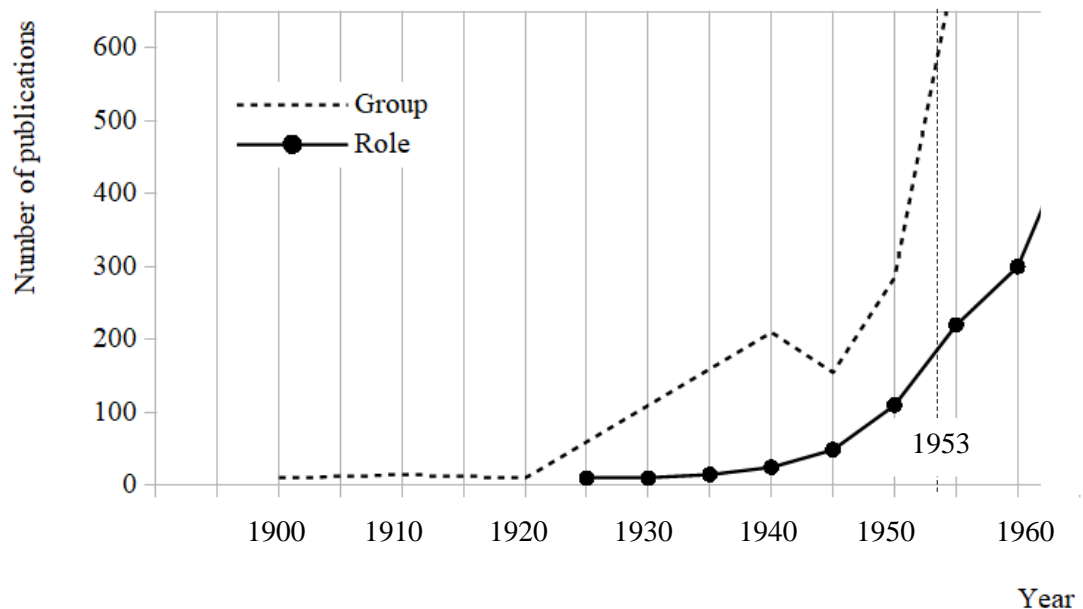


Figure 3.1: Development of role discussion vs. group discussion based on the number of annual publications (Claessens, 1974, p. 11)

It demonstrates an incremental increase of publications in the third stage (after the 1950s), which is now explained. Section 3.2.7 describes the application of role theory in management accounting research, where the period of application starts in the 1960s and continues to the present day. One of the most important studies in this third stage is Dahrendorf's (2006) *Homo Sociologicus* (first edition in 1958). This is a concept which defines the human being as role medium. Dahrendorf (2006) agrees with the American researchers Gross, Mason and McEachern (1958) that role means a grouping of normative expectations towards positions. The expectations concern observable behaviour as well as characteristics and attributes of the position owner. The expectations of a group of contacts is called role segment or role sector (Joas, 1973, p. 17). If the expectations of different contact groups towards one position diverge, an intra-role conflict is generated. If the expectations towards the positions of one person diverge, an inter-role conflict occurs. Dahrendorf (2006) distinguishes three levels of expectations: mandatory, discretionary and optional expectations with the respective sanctions. The same scale applies to the classification of roles (Joas, 1973, p. 18). The objective of the *homo sociologicus* is to give an explanatory theory of social action and not to describe realistically and correctly the nature of human beings. The pattern of *homo sociologicus* is guided by the *homo oeconomicus* of economic sciences. Based on the latter, human action cannot be explained based on social motives or reasons, but it mainly justifies profit maximisation as an overall target (Joas, 1973, p. 21). If the same logic applies to the *homo sociologicus* the main target of the concept would be the minimisation of sanctions and the support of the choice of conformity strategies which is not a point of interest (Joas, 1973, p. 22).

The anthropologist Linton (1936) investigates the independence of a social system of its members, basing his study on primitive societies. Social order is "activated" by the members of society but not influenced by them. Linton defines status as the place an individual takes in a system. Each status disposes of rights and obligations which need to be fulfilled. This fulfilment is called role and gradually extended to attitudes, values and expectations. The status can be ascribed based on inborn characteristics or achieved based on performance and skills. This distinction is only plausible if Linton's assumption of independence of the norms and social relationships from the actions and motives of the individual is true (Joas, 1973, p. 30).

Parsons (1951) discusses a category system where a role concept is centrally placed. This role concept, however, is defined in various ways: an organised part of action orientation, expectations of interacting partners, a functional requirement for the stability of a value system and a functional element of a stable social system (Joas, 1973, p. 27). Parsons' action frame of reference distinguishes three simultaneously existing systems: personality system, social system and cultural system. The personality system is defined as the organisation of value orientations and action motivations of an actant. The social system can be seen as an interdependent connection of actions of several actants. Interaction is defined as mutual action orientation where one actant needs the other to realise their own targets and to satisfy their needs. This mutual dependence leads to a common interest in a perpetuation of the relationship and thus to a stabilisation. The patterns of relationship are a result of the cultural system. It comprises of value orientations, belief systems and expressive symbols. It is not a result of interactions, but ensures the stability of relations. The cultural system is integrated into the other two systems by institutionalisation (social system) and internalisation (personality system) (Joas, 1973, p. 28). Internalisation means that motivations for action are formed based on the cultural system and the need for stabilisation. Institutionalisation encompasses a common specification of the common value system and the definition of norms. Thus, Parsons structures value systems into value elements, personal systems into need-dispositions and social systems into statuses (structural aspect) and roles (functional aspect), i.e. those elements which result from values, which rely on need-dispositions and which relate to interactions. Depending on the situation, Parsons uses the term status-role-bundle (Joas, 1973, p. 29). To conclude, Parsons derives interactions from the value system. Based on the internalisation concept, only motives and interests of the value system are imaginable (Joas, 1973, p. 31).

Mead (1934) defines the term symbolic interactionism with the two main elements of role and symbol. The definition of interactions and the existence of non-institutionalised role expectations are an example of human action. Mead (1934) develops his concept as an anthropological theory of emergence of human communication. He bases his investigations on natural signs, animal gesture and significant symbols. Natural signs are sensual stimuli which cause certain reaction sequences. Animal gestures depend on a

certain form of sociality and are based on early reactions of an animal which would usually be the reaction to the total action (dog snarling when preparing an attack). If the relationship is stable, the gesture at the beginning can replace the total action. However, the communicative content of this gesture is not intended and is frequently unnoticed. The same phenomenon can be found for the human being (Joas, 1973, p. 36). A special form of gesture is the vocal gesture of human beings. It is distinguished by the fact that it can be perceived by the communicator as well as the partner. Thus, the reaction of the partner coincides with the virtual reaction of the communicator. The behaviour of the other person can be anticipated which Mead refers to as “taking the role of the other” (Joas, 1973, p. 37). Each actant anticipates the reaction of the respective partner who anticipates the anticipation. In this context, role means a pattern of behavioural expectations, which is created by interaction and based on a common agreement of the partners (Joas, 1973, p. 38).

Turner (1978) extends Mead’s work and further defines the terms “role standpoint” and “role-making” (see Section 3.2.3). The distinction of both terms makes it possible to establish the term “role-taking” (see Section 3.2.3), which corresponds to the imaginative construction of the role of the other, while separating the identities of both partners (Joas, 1973, p. 40). Turner distinguishes three cases of role-making and standpoints – in the identification case, role-making and the standpoint of the partner coincide. In the second case, role-making is based on the values of a third person which is not part of the interaction. The reference can similarly be an external norm. In the third case, the desired impact of interaction can be the directive for behaviour. The interacting partners can have equal or conflicting interests (Joas, 1973, p. 41). Symbolic interactionism is based on the assumption that roles are only generated during the interaction and that roles can be permanently modifiable. According to Turner (1978), it is not plausible to have specified expectations about behaviour but he talks about “preparedness” which defines the acceptable scope of reactions (Joas, 1973, p. 42). Thus, symbolic interactionism outplays functional role theory in several aspects. However, the problems of power, authority and constraint are not picked out as a central theme. Furthermore, it is not obvious how society and institutions can be described based on individual interactions (Joas, 1973, p. 44).

3.2.2 Perspectives of role theory

Looking at role theory across various authors, five basic perspectives of role theory can be distinguished – functional role theory, symbolic interactionist role theory, structural role theory, organisational role theory and cognitive role theory. Each is now elaborated.

- Functional role theory begins with Linton's (1936) work, becomes formalised with Parsons' (1951) work and was the dominant perspective until the 1970s. It emphasises the representative behaviour of individuals who occupy social positions within a stable social system. This behaviour is prescribed and explained by normative expectations. Among other issues, it is criticised by Gallagher (1976) and Freidson (1970) for associating roles with functions and social positions like Parsons' sick role.
- Symbolic interactionist role theory starts with Mead's work (1934) and stresses the evolution of roles through social interaction of role-taking and role-making. Its epistemological approach favours ethnography, which gives valuable input regarding the research on informal interaction, but is frequently criticised for its lack of rigour regarding definitions of research limits and constraints.
- Structural role theory examines structured role relationships mathematically and focuses on "social structures" that share the same behaviour (roles) by emphasising the social environment. It is frequently criticised for the purely structural and mathematical approach.
- Organisational role theory starts with Gross's (1958) and Kahn *et al.*'s (1964) work and emphasises social systems that are task-oriented, pre-planned and hierarchical. Roles in these social systems are attributed to social positions and generated by expectations. Role conflicts (see Section 3.2.4) are a common phenomenon and need to be resolved in these organisations. Criticism exists regarding non-normative expectations and regarding sources of dissatisfaction other than role conflicts.
- Cognitive role theory starts with Moreno's work (1934) on role playing and mainly focuses on role expectations and behaviour. It has the broadest empirical base of the five perspectives and it is criticised for not studying the contextual

limitations and for ignoring the dynamism of human interaction (Biddle, 1986, pp. 70–76).

This research focuses on organisational role theory as the Kahn *et al.*'s (1964) work fits best to the underlying research objective (see Sections 3.2.5 and 4.6). The sample organisations (Section 4.7.3) are expected to be task-oriented and hierarchical with roles being generated by expectations and being attributed to social positions in the organisation. Based on the above mentioned history and perspectives, role theory incorporates a specific language with central concepts and terms which are introduced in the following sections.

3.2.3 Role concept, variables of roles and role expectations

After the perspectives of role theory, the main vocabulary and concepts relevant for the research objective are now described. First of all, social role and further definitions of the role are introduced in the following:

A social role is a comprehensive pattern of behaviour and attitudes, constituting a strategy for coping with a recurrent set of situations, which is socially identified [...] as an entity. A social role is played recognisably by different individuals, and supplies a major basis for identifying and placing persons in a group, organisation, or society. (Turner, 1990, p. 87)

From the above definition, roles can be described as elements of social systems and subsystems on a structural level (Merton, 1957). A role can also be described as a norm-system with *norms* being the components of a role (Jackson, 1966, p. 36) and being general expectations towards the role incumbents (Opitz, 2009, p. 126). On a person- or action-oriented level, however, roles are mostly seen as elements of identity and behavioural orientation (Turner, 1978). The general motivation for role behaviour lies in extrinsic compensation. Intrinsic approaches also affect the individual through role satisfaction (Katz and Kahn, 1978, p. 173). Four further groups of roles can be distinguished: basic roles (e.g. gender), structural status roles (e.g. occupation), functional group roles (e.g. mediator) and value roles (e.g. hero) (Turner, 1990, p. 88). The focus of this research is on the structural status role of the MA and the functional group role of the MA.

Closely related is the concept of *role set*. According to Merton (1957), a role set is a “complement of role-relationships in which persons are involved by virtue of occupying a particular social status” (Merton, 1957, p. 110). It is important not to confuse role set with “multiple roles” which refer to various social statuses in which individuals find themselves (Merton, 1957, p. 111). The role set in an organisation typically includes the supervisor(s), the subordinates and various members of the same or other departments, with whom the focal person ought to work together (Katz and Kahn, 1978, p. 189). A role set has a stake in the focal person’s performance and this is why they develop proscriptions and prescriptions that are called role expectations.

Role expectations mainly consist of preferences on what a person should do or avoid doing. They can equally refer to personal beliefs, thoughts and characteristics (see Section 3.2.5) (Katz and Kahn, 1978, p. 190). Role theorists (Linton, 1936; Parsons, 1951; Katz and Kahn, 1978) say that they “share expectations” for their own behaviour and that of others. Role behaviour is controlled or predicted by expectations which suggest that persons conform in their behaviour to expectations they hold (Biddle, 1979, pp. 115–116). Five assumptions are applied to the concept of role expectations: sanctioning, correspondence, phenomenal equivalence, conformity and simple formation. According to Biddle (1979, p. 119), “an expectation is a statement that expresses a reaction about a characteristic of one or more persons”. Expectations can be characterised into enunciations (overt), conceptions (covert) and inscriptions (written) (Biddle, 1979, pp. 119–121). Biddle (1979, pp. 122–125) proposes three forms of distinctions among expectations. Individual expectations which are held by a single person and shared expectations which correspond among subjects. Personal expectations are distinguished from positional expectations which are held for object-person positions. Finally, expectations of self (own position) can be distinguished from expectations of others.

Luhmann (1964) distinguishes three dimensions of behavioural expectations: the time dimension, the factual dimension and the social dimension. The time dimension discriminates the cognitive and normative expectations. Cognitive expectations change in the case of deception, but normative expectations are maintained against

contradictory experiences (Joas, 1973, p. 54). Changes of norms can be implemented in single steps or based on decisions and can be left to qualified authorities. The factual dimension expands behavioural expectations from single actions to a larger context. Thus, a specific behavioural expectation becomes a role. The social dimension expands the behavioural expectations to a larger circle and even to non-involved third parties (Joas, 1973, pp. 55–56). This is called institution. These three dimensions (represented by norms, roles and institutions) mutually influence each other. Luhmann (1964) concludes that normalisation starts for easily controllable actions which serve as symbols for the acceptability of the total action (Joas, 1973, p. 57). Roles can be defined as inter-subjectively valid rules of action which are expressed in interaction as reciprocal expectations. The latter are obliged to adopt a form of typification scheme to anticipate perceptions, typification meaning a system of relevance depending on interest (Joas, 1973, p. 47). However, the dimension of relevant context, the rigidity towards rule anomalies and the expansion to a social community that supports the validity of these rules diverge (Joas, 1973, p. 66).

Expectations can be further described as the mental correlative of norms on a cognitive level. Expectations are a prospect of what an individual will or is supposed to do in a particular situation or position. Consequently, the term expectation has a double meaning: an anticipatory (he will act) and a normative (he is supposed to act) character (Wiswede, 1977, p. 39). According to Mead (1934), a human being mentally anticipates the reactions of the other and thus modifies their own behaviour based on the imagined consequences of action. Anticipatory reaction or expectation learning is merely possible if norms exist on which anticipation can be based. Norms hereby refer to social reality (Wiswede, 1977, p. 39). Expectations can be objectively pronounced or can merely be perceived expectations of the role receiver. Expectations do not necessarily need to be explicitly pronounced in order to have an impact on behaviour. The internalisation of expectations or roles are the result of socialisation. Conformity research distinguishes between acceptance (internal conformity) and compliance (external conformity). The higher the acceptance or internal conformity the higher the identification with the role (Wiswede, 1977, p. 40). However, expectations do not remain in the minds of the members of a person's role set. They tend to be communicated in different ways: sometimes directly, e.g. via superiors' instructions, and sometimes indirectly, e.g. via the

disappointment with someone's behaviour. As role expectations are communicated (or sent) to the person, Kahn and his colleagues refer to such expectations as the *sent role* (see Section 3.2.5). The members of a person's role set transmitting the role expectations are called *role senders*. In addition, Kahn and his colleagues use the term *focal person* for any person who is exposed to role senders' expectations (Katz and Kahn, 1978, pp. 190–192).

A further important concept close to role expectations is *role behaviour*. Role behaviour is behaviour which is system relevant (not necessarily congruent with the requirements and expectations of others) and which is exercised by a person who is accepted by others as a member of the system. These criteria are affirmed by the formalities of an organisation. It is important to note that both criteria of membership and system relevance are necessary and that neither is in itself sufficient. One of the consequences of this concept is the possibility of being determined by forces and pressures originating outside the organisation in which the behaviour occurs (Kahn *et al.*, 1964, p. 18).

Role-taking signifies that the focal person takes the expected role of the role sender. Two schools of thought can be discriminated regarding successful role-taking – the “accuracy of attributed expectations”, i.e. the expectations of role takers to others match those that others hold, and the “sophistication of social thought”, i.e. the role taker assumes that others hold expectations that “map the thoughts and actions of other persons” (Biddle, 1986, p. 84). For Mead (1934), role-taking is essential for socialisation, Linton (1936) considers roles to be units of culture and Moreno (1934) considers role playing to be the most important element (Biddle, 1979, p. IX). *Role-making* on the other hand can be described as an option where the occupant can choose with respect to methods, activities and style. The focal person can elaborate the role by exercising these options (Katz and Kahn, 1978, p. 219).

The term *role change* can be described as “a change in the shared conception and execution of typical role performance and role boundaries” (Turner, 1990, p. 88). It is stressed that in a system of roles, a change in one role always generates a change in the system of roles. Role-taking, according to Mead (1934), cannot entirely describe role change. If role transition or the process of role change is to be described, role-making

comes into play. Consequently, taking over a role always means that the role incumbent slightly modifies the role individually. Two people never fulfil a role in exactly the same way. Role-taking is always role-making. The degree of role change depends on the rigidity of role instructions as well as on the performance of the actant (Griese, Nikles and Ruelcker, 1977, p. 44).

The *role attributes* are the real, assumed or expected characteristics of a person with regard to a determined role. Thus, role expectations define what role incumbents have to do, whereas role attributes define how role incumbents have to be. This means that there are assumptions which individual characteristics a person needs to possess in order to fulfil a certain role successfully (Wiswede, 1977, p. 41). The distinction between visible and invisible characteristics of a person is very important for role attributes, as well as the distinction between assigned and achieved attributes. Additionally, central and circumferential role attributes can be distinguished when circumferential role elements gain in importance the more significant a role is (Wiswede, 1977, p. 42). The role attribute discussion fits with the theory of cognitive dissonance. Dissonances disturb the balance in the eyes of the social environment. Thus, a role incumbent needs to possess certain characteristics in order to fulfil a role adequately from an observer's point of view. If this compatibility is not given, the observer suffers from cognitive dissonance. This dissonance can be overcome by re-adjusting the role attributes with regard to the role or by re-adjusting one's own perception (Wiswede, 1977, p. 46).

Roles are generally not defined by society but by the social context, i.e. involved groups or involved parties. These groups or parties do not necessarily agree on a common understanding of the role, that is, *role dissent* can occur. Overall there can only be a degree of *consensus*, as dissent or consensus are considered as final points on a scale. First, there can be diverging opinions about the exact characteristics of a role and how they are weighted. There are diverging views which expectations need to be rigorously fulfilled and which expectations can be potentially neglected. Rights and duties of a role can also be seen in different views (Wiswede, 1977, pp. 49–50). Second, several conditions can be identified in order to establish high degrees of consensus. The *interaction hypothesis* claims that the degree of consensus may depend on the similarity of social and cultural background and also on the length of interaction/collaboration. On

the other hand, a high degree of collaboration may also lead to conflicts about the “right” distribution of roles. Consensus can only be increased if the interaction was comfortable and positive for the role player. The frequency of interaction is another influencing variable (Wiswede, 1977, p. 51). The *attraction hypothesis* claims that there is a positive correlation between interaction and attraction. Conformity research suggests that conformity with group norms is a function of cohesion of this group which leads to the *cohesion hypothesis*. The *homogeneity hypothesis* claims that a common origin, exposure, professional group etc. lead to *role consensus*, the contrary might lead to *role dissent* (Wiswede, 1977, pp. 52–53). The *implication hypothesis* is based on similar consequences of role action for the involved parties (Wiswede, 1977, p. 54).

3.2.4 Role conflict, role ambiguity and role clarity

After describing the facets of role expectations, role sender and role-taking/-making above, this section examines *role conflict*. When human beings are confronted with conflicting intra- or inter-role expectations and it is impossible for them to comply with the latter, role conflict occurs (Birnberg, Luft and Shields, 2006, p. 121). Katz and Kahn (1978, p. 204) define role conflict “as the simultaneous occurrence of two or more role expectations such that compliance with one would make compliance with the other more difficult”. The degree of interference distinguishes these conflicts – compliance with one might exclude compliance with the other. According to different empirical studies, role conflict in the work situation is a widespread phenomenon (Katz and Kahn, 1978, p. 205). It is assumed that the role conflict can be felt by the concerned person and is not only visible to third party observers (Wiswede, 1977, p. 115).

Different types of role conflict can be distinguished: *inter-role conflict* occurs when a person holds a position in different systems which cannot be easily combined. As several interests need to be considered, the management of this type of conflict is complex (Claessens, 1974, p. 71). *Intra-role conflicts* depend on the configuration of one role and discriminate *intra-sender* and *inter-sender conflicts*. Intra-sender conflict occurs when the role sender has contradictory claims, inter-sender conflict occurs when different role senders have contradictory expectations. These three conflicts can be called objective as these conflicts are based on the role senders, i.e. the environment of

the focal person. One subjective conflict is *role overload*, where the focal person cannot cope with the panoply of tasks and expectations in the available time and with the required quality (Katz and Kahn, 1978, p. 185). Another subjective conflict is *person-role-conflict* where the focal person is confronted with a role that is incompatible with the self-concept of the person (Fischer and Wiswede, 2002, p. 466).

The initial conditions of role conflicts are diverse. Social change is one important factor which promotes inter-role conflict because values and norms are replaced by new ones. The focal person loses orientation and stability as old roles are given up and new roles are not yet assimilated. Role ambiguity can occur (see below) (Wiswede, 1977, pp. 118–119). Further supporting factors are a plurality of coordination tasks and a plurality of hierarchical levels, which lead to a complex global system. The lacking integration of sub-systems in a global system is another reason for role conflicts. The lack of conciseness of expectations (i.e. role ambiguity – see following section) is another factor in favour of role conflicts (Wiswede, 1977, pp. 119–120). Further supporting factors are a plurality of incompatible role expectations and a weak insight by the focal person into the consequences of non-conformity to expectations (Wiswede, 1977, p. 122).

In order to cope with role conflicts, the following strategies can be applied – structural role redefinition (i.e. negotiating with the role senders to change their expectations), personal role redefinition (i.e. restructuring one's own view) and reactive role behaviour (i.e. adjusting one's own behaviour) (Hall, 1972, p. 476). A further strategy is shielding the role action and decreasing the visibility towards the role sender as a way of relief. An additional option to cope with role conflicts is compartmentalisation or segregation, where a spatio-temporal separation of potential conflictive situations is targeted (Wiswede, 1977, p. 129). A further strategy is the merging of roles, where a new role develops which can be considered as a compromise between the conflicting roles. An additional option to cope with role conflict is to stick to the role where the sanction balance is evaluated more positively. Lastly, the focal person can look for solidarity among other concerned persons or groups and thus mitigate role conflict (Wiswede, 1977, p. 130).

After the description of role conflict above, *role ambiguity*, in contrast to role clarity, is now detailed. As mentioned in the previous section role ambiguity can be one reason for role conflict. Role ambiguity in the context of role theory was first introduced by Kahn *et al.* (1964) to identify the vagueness of a role (Wiswede, 1977, p. 89). When human beings experience uncertainty about what behaviour is expected of them, role ambiguity occurs (Birnberg, Luft and Shields, 2006, p. 121). According to empirical studies, the consequences of role ambiguity are similar to role conflict: low job satisfaction, high tension, low self-confidence, a sense of futility, reduction of performance effectiveness (Katz and Kahn, 1978, p. 206). Wiswede (1977, p. 90) distinguishes between subjective and objective ambiguity, subjective meaning that the focal person is uncertain about the expected behaviour and objective meaning that a majority of individuals do not have a clear definition of expected behaviour. Role ambiguity can be considered as a vacuum of orientation which can be treated by role-making (own configuration of role) or orientation towards other persons (Wiswede, 1977, p. 91). The opposite of role ambiguity is *role clarity* and is defined as “certainty about duties, authority, allocation of time and relationship to others; the clarity or existence of guides, directives, policies; and the ability to predict sanctions as outcomes of behaviour” (Rizzo, House and Lirtzman, 1970, p. 156).

Kahn *et al.* (1964) use the term role ambiguity, which is conceptually similar to role clarity (Sawyer, 1992). Role clarity is expressed as the extent of certainty of role expectations. Kahn *et al.* (1964) claim that a lack of role clarity is derived from a lack of information regarding a given role which results in unclear expectations and coping behaviour by the actant. The latter can increase the probability that the role incumbent is dissatisfied with the role and thus performs less effectively (Bush and Busch, 1981, p. 17). Role ambiguity is generally defined as a lack of information or as an uncertainty about expected job behaviour which is usually seen as having negative effects whereas role clarity is associated with positive outcomes (Posner and Butterfield, 1978, p. 81).

3.2.5 The role episode model and its context

After explaining the diverse vocabulary of role theory in the previous sections, the role episode model is now explained. It is identified as a particularly useful framework for

the underlying study for the following reasons. Firstly, the role episode model fits with the research objective which asks how and why the characteristics of a PMS interact with the role of the MA and *vice versa* (Section 1.2). In particular, the how question is well supported by the role episode framework as it takes external factors as well as human behaviour into account. Thus, the model also develops explanatory power and enables the answer to the “why” question. Secondly, the model has not been frequently applied in qualitative accounting research (see Section 3.2.7) which leads to additional potential with regard to the analysis of the data. Thirdly, the role episode model is considered to be appropriate for interdisciplinary research as it takes role senders as well as role receivers into account. Thus, management accounting as well as management control are analysed simultaneously and the underlying study uses OM as role senders and MAs as role receivers (see Section 4.6) which gives a sound basic structure for interdisciplinary analysis. Fourthly, the role episode model permits analysing a two-way relationship between both role senders and receivers as well as the characteristics of a PMS. Thus, the feedback loop is integrated into the model and can be analysed adequately. Fifthly, the role episode model permits making potential interactions transparent and thus, making a qualitative prediction about the range of potential interaction based on a framework. Lastly, the role episode model fits – as will be shown in Chapter 4 – with the constructive ontology and interpretive epistemology of the study. This means that the social world is made of individuals who interact as role senders and receivers and whose behaviour needs to be interpreted. It thus also fits with the method of a comparative case study (see Sections 4.6 and 4.7).

The role episode model also draws on role theory vocabulary as explained in the previous sections. It applies Turner’s (1990, p. 88) structural status roles (e.g. occupation) and functional group roles (e.g. mediator). The role set as defined by Merton (1957) is restricted to a role sender who in the underlying study is represented by the OM as a colleague. This OM has expectations which are a statement that expresses a reaction about a characteristic of one or more persons, i.e. MAs in the underlying research (Biddle, 1979, p. 119). Within the role episode model, role-taking and role-making take place, according to Mead (1934) and Turner (1978). Role change as “a change in the shared conception and execution of typical role performance and role boundaries” (Turner, 1990, p. 88) can also be explained based on the role episode

model. Another aspect which is a result of the cyclic role episode is the term role identity with a focus on its social identity theory foundations. According to Joas (1973, p. 78), identity has two meanings. On the one hand the non-interchangeability which can be detected by a third party. On the other hand the awareness of a person to be different in distinctive actions but to be the same person. The way that professionals interpret their role identity is decisive for how they act in work situations (Pratt *et al.*, 2006) which is an important aspect for the underlying study. A further concept which is of importance for the role episode model is role conflict “as the simultaneous occurrence of two or more role expectations such that compliance with one would make compliance with the other more difficult” (Katz and Kahn, 1978, p. 204). One reason for role conflict can be role ambiguity which occurs when human beings experience uncertainty about what behaviour is expected of them (Birnberg, Luft and Shields, 2006, p. 121). These are the main concepts to be aware of when working with the role episode model.

When Katz and Kahn published the model in 1978, the theory integrated the findings of the “application” period of role theory (see Section 3.2.1). Consequently, Katz and Kahn (1978) are interested in generating an applicable framework which can be used in other disciplines. Thus, it has been used for research in management accounting where its application is still relevant (see Section 3.2.7). Based on the above comments, the role episode model is chosen for this research and will now be explained in detail.

Organisations are complex and the interdependencies of the organisational members are potent and subtle. Many variables tend to be related in complex manners and a model providing a general orientation is essential. The role episode model represents such a framework with a complete cycle of role-sending, response by the focal person and the effects of this response on the role senders (Kahn *et al.*, 1964, p. 26). Thus, the interplay of the above mentioned concepts like role expectations, role sent, role conflict and role ambiguity can be illustrated in one integrated model. This “classic role process” (Ilgen and Hollenbeck, 1991, p. 188) constitutes a causal sequence (Kahn *et al.*, 1964, p. 26) combining the role concepts outlined in the preceding sections. Role pressures are assumed to find their origin in the expectations of the members of the role set. Role senders have expectations about the performance of the focal person. They also have

perceptions about the current performance of the focal person. Role senders correlate both, and apply pressure to make the performance congruent with the expectation. Simultaneously, expectations are adjusted throughout the process. Thus, the episode involves experience and response for both the role senders and the focal person (Kahn *et al.*, 1964, p. 27). According to Katz and Kahn's model (1978), four concepts or events constitute a role episode connected by arrows which imply a causal sequence (see Figure 3.2).

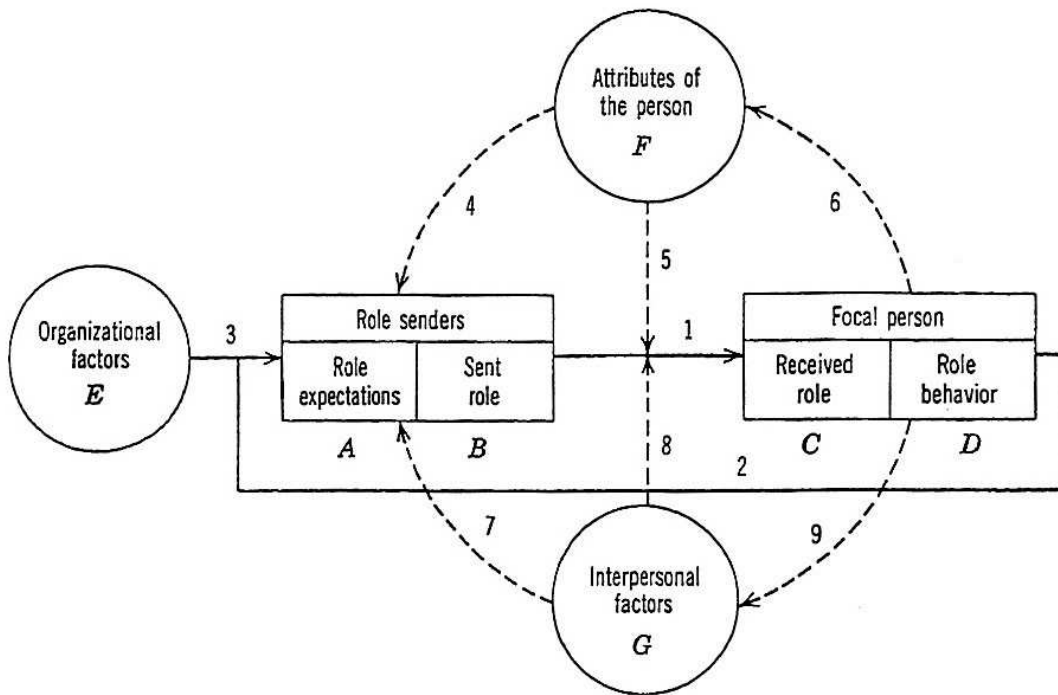


Figure 3.2: Role episode model according to Katz and Kahn (1978, p. 196)

As illustrated in Figure 3.2, the episode starts with the existence of a set of role expectations (rectangle A) held by role senders about a focal person and the behaviour. Role expectations (see Section 3.2.3) are standards applied to the behaviour of a person who occupies an office or a position in an organisation. Consequently, role expectations represent attempts to influence the behaviour of the focal person (Kahn *et al.*, 1964, p. 27). Role senders have certain expectations with regard to the manner in which the focal person should perform his or her role (arrow 1). Their experience is based on perceptual, cognitive and evaluative components (Kahn *et al.*, 1964, p. 27). Role senders also have their own perceptions of how the focal person is behaving and performing. Correlating expectations and perceptions, sent roles (rectangle B) consist of communications sent by members of the role set in order to influence the focal person

(Kahn *et al.*, 1966, p. 278). Role senders are frequently unaware that their expectations are an influencing factor (Kahn *et al.*, 1964, p. 27). Role pressure can be performed on the focal person to make their performance congruent with the role sender's expectations. The objective environment of the focal person needs to be distinguished from the psychological environment (Kahn *et al.*, 1964, p. 12). To determine the role pressure, the expectations of the role senders need to be studied separately. An investigation of all the role expectations can give an indication of the potential of conflict. Similarly, the degree of role clarity or ambiguity can be evaluated by investigating the expectations of the role set. The focal person's experience of role conflict can diverge from the view of the counterparts. The concept of the received role (rectangle C) includes the focal person's perception of the role-sendings, as well as the auto-expectation of the focal person. Role behaviour (rectangle D) corresponds to the response of the focal person regarding the above named influencing factors. These concepts are influenced by the motivations, cognitions and behaviour of the role set and of the focal person. This can be called adjustive or maladjustive responses (Kahn *et al.*, 1964, p. 27). The degree to which the focal person's behaviour conforms to the initial expectations is expected to influence the expectations in the next role episode. In total the role episode describes a cyclic and ongoing process where the focal person's behaviour provides feedback to the role sender (arrow 2). The following role-sendings depend on the role sender's evaluation of the focal person's behaviour. Afterwards, a new role episode begins (Kahn *et al.*, 1966, p. 279) (arrow 1).

Effects of role pressure have both perceptual and cognitive aspects. General predictions are that a supportive expectation generates satisfaction. When expectations are contradictory and direct to changes, they can evoke tension, anger and indecision. The reaction of the single focal person is determined by their experience in that situation. The person confronted by a role conflict needs to react in some way as the person needs to cope with the pressure (Kahn *et al.*, 1964, p. 28). Coping can be done by compliance, persuasion, avoidance, distortion of reality, formation of affective or physiological symptoms etc. Regardless of the coping strategy used, the focal person's behaviour can be assessed in relation to the expectations (Kahn *et al.*, 1964, p. 29). The response of the focal person to role pressures "feeds back" to the role sender (arrow 2) in ways that alter or reinforce them. The next role-sending then depends on the evaluation of the response

to the last sending and a new episode starts (Kahn *et al.*, 1964, p. 29) (arrow 1). Three types of reactions occur in this process. First, tensions and frustrations of the focal person can result in aggressive action and communication towards the role senders. Second, the focal person can avoid or reject the role senders with difficult expectations. Third, the focal person can approach the role sender for joint problem solving. Both adjustive and maladjustive cycles are described by this framework. It is used here to provide a way of thinking about a broad set of factors in complex interactions (Kahn *et al.*, 1964, p. 34) and as a basic guideline in order to structure the interaction of the PMS characteristics with the role of the MA according to the research objective (Section 1.2).

The role episode process does not run in isolation and is influenced by different contextual factors or surrounding conditions (Katz and Kahn, 1978, pp. 208–217). Other role theorists like Biddle and Thomas (1966) or Bertrand (1971) share this consideration of contextual factors. Thus, in order to fully understand the role episode process, Katz and Kahn (1978) integrate three surrounding variables – individual, interpersonal and organisational factors influence the subsequent stages of the role episode. Figure 3.2 depicts the core process (rectangles A – D and arrows 1-2) and the contextual factors (circles E – G and arrows 3-9). Taken in combination, these factors represent the context where the episode occurs. These contextual factors will be explained in more detail in the following paragraphs.

Organisational factors (circle E) tend to determine, to a large extent, the role expectations of the role set (arrow 3). Thus, they are regarded as antecedents of roles. The organisational structure, the functional specialisation and division of labour dominate the content. These structural properties are sufficiently stable so that they can be treated as independent of the person of the role set. The organisational factors (circle E) represent a set of variables. Some of them describe the organisation as a whole, its size, number of hierarchical levels, products, organisation of the role set or financial base. Other variables represent the relation of certain persons to the organisation (Kahn *et al.*, 1964, p. 31). The structure of the subsystems, formal policies, the technology of the organisation and rewards and penalties influence the content of a given office (Katz and Kahn, 1978, p. 197). Further factors can be organisational culture, hierarchical structure, rate of growth, purpose, ownership etc. (Kahn *et al.*, 1966, p. 279). Arrow 3

describes a causal relationship between the organisational variables and the role expectations and pressures which are held towards the focal person. The organisational conditions of the role sender partly determine the experience, the expectation and the pressure exerted (Kahn *et al.*, 1964, p. 32).

Attributes of the person or personality factors (circle F) refer to all behavioural variables of an individual including motives and values, defence preferences, sensitivities, habits and fears. They refer to all factors that describe a person's propensity to behave in certain ways and influence the role episode in various ways. Arrow 4 depicts that individual factors evoke certain behaviours from role-senders. The same sent role expectation or pressure can be perceived differently by different individuals (arrow 5). Preferences for coping strategies also tend to be based on personality. At the same time, role behaviour has an impact on personality (arrow 6) (Katz and Kahn, 1978, p. 197). Kahn *et al.* (1966) describe these individual factors as *attributes of the person*. The effects of these factors on role processes are the following. First, some of the factors directly affect the role senders. Second, some of the factors have a direct influence on the focal person, e.g. as conditioning variables between an objective situation and the perception of the role sender of this situation. Conditioning variables may be personal factors such as ability, confidence, extroversion and flexibility. Third, personality factors have an influence on the focal person's reaction to role stress (Kahn *et al.*, 1966, p. 280). To conclude, attributes of the person are considered important determinants of reactions to role expectations and sensitivity to role pressure (Kahn *et al.*, 1964, p. 32).

Interpersonal relations (circle G) are defined as the patterns of interaction between the role sender and the focal person. These relations can be based on formal organisational structure or on informal interactions and relationships. The influence mechanisms of interpersonal relations are very similar to personality factors. There might even be affective links between the focal person and the role sender such as trust in cooperation, respect and a friendly style of communication. Other important dimensions in this context are the power or ability to influence, the interdependence between the actors and the style of communication. Thus, interpersonal relations have an influence on role sender's actions and focal person's responses (Kahn *et al.*, 1966, pp. 280–281).

Interpersonal factors also affect the quality of the relationship and communication between focal person and role set (arrow 7) and the interpretation of the sent expectations (arrow 8). Furthermore, the behaviour of the focal person affects the interpersonal factors and relationship with the role set (arrow 9) (Katz and Kahn, 1978, p. 197).

3.2.6 Critical analysis of role theory and the role episode model

On one hand, role vocabulary appears to be among the most extensive vocabulary in sociology (Schuelein, 1989, p. 483). On the other hand, the overall role discussion in German literature has stagnated since the 1960s. No further major empirical work in sociology has been done since then. Biddle (1986) states that 10% of all articles published in sociological journals use the term role, but on the other hand a real development of role theory is scarce (Schuelein, 1989, p. 484). Despite the various applications or because of the various applications in different areas of research, role theory is frequently criticised. One criticism generally concerns its preciseness in describing human behaviour. For this study, the preciseness of human behaviour is not the focus, but the interaction between the characteristics of a PMS and the role of the MA. Another general criticism concerns the term role as being confusing, conflicting or ambiguous (Coulson, 1972, p. 108). In this context five areas of criticism can be identified. First, critics argue that role theory is based on the illusion that normative behavioural expectations reflect the real behaviour of the majority of individuals (e.g. mother role). Consequently, roles are frequently based on ideologies more than on realities and are restricted to only one pattern instead of accepting diversity. Second, role theory is said to promote social conformity and behaviours which exemplify the “proper way to live”. Individuals acting outside these norms are called “deviants” and their deviating behaviour is assumedly explainable by role conflict (Jackson, 1998, p. 51). Third, role theory explains role acquisition or role learning as an intergenerational transfer of values and behaviours. This gives a very superficial explanation of socialisation and completely leaves out the power dimension. Fourth, role theory is said not to take into account human agency and not to provide a framework for the comprehension of human subjectivity (i.e. attempts of individuals to adapt to their situations despite certain roles) (Jackson, 1998, p. 52). Fifth, role theory gives the

illusion that life is split into different segments which can be treated separately and independently. However, today's life is more and more interdependent, e.g. including household work, child care and profession (Jackson, 1998, p. 53).

Another frequent critique is on role conflict, as role theory implies that role conflicts are the only conflicts within organisations and that the participants will be satisfied and productive once role conflict is resolved (Biddle, 1986, p. 74). Role conflict is said to divert the attention from real conflicts in social systems and from the possibility to change the systems (Biddle, 1986, p. 82). Further criticism deals with role theory as an illusive theory (Haug, 1972, p. 101), as the role theory terms themselves are not considered to be science. Another criticism deals with the applicability of role theory which is said to be restricted to certain social layers and to an industrial society (Haug, 1972, p. 106; 113). The last criticism deals with obscuring power and social control and thus not supporting the detection of relevant findings (Haug, 1972, p. 125).

According to Schuelein (1989), role theory loses its importance in social sciences based on two explanations – social dynamics and the inherent problems of theory. Social dynamics are fashions or cycles and structural lobbying of different parties. For role theory, the linguistic distinction of the colloquial term role and the technical role term add to the confusion and thus to the decrease of interest (Schuelein, 1989, p. 486). Inherent problems of the theory itself add to the decrease of importance. Role theory is plagued by conceptual and definitional confusions and by authors with differing perspectives (Biddle, 1986, p. 86). Biddle (1986) states that phenomena tend to be based on simple assumptions and basic research remains under-researched. Various researchers (Plessner, 1960; Tenbruck, 1961; Claessens, 1963; Griesse, 1976) actively criticise the various interpretations of different authors within role theory. Thus, critique on role theory tends to be personalised referring to the competence of role theorists and temporised referring to outstanding future research (Schuelein, 1989, p. 487). Schuelein (1989) counter-argues that role theory is mature and that the differing perspectives are the result of theorising in the area of role theory. This means that role theory deliberately reflects various peculiarities of interaction processes which can be interpreted as a lack of abstraction (Schuelein, 1989, p. 495). Thus, the variety of different authors is not a weakness or lack in competence of the theorists but a reflection

of the different forms of social systems (Schuelein, 1989, pp. 492–493). For the underlying study, role is operationalised in terms of Katz and Kahn’s role episode model (Section 3.2.5) and in terms of the activities of the MA (Section 2.2.1). Thus, the interpretations are based on a basic definition or concept which leave less margin of interpretation and which renders this critique less relevant for this study.

Overall, the researcher acknowledges that role theory has limitations, like all theories. For the following reasons the author still considers it useful for this study. First and foremost, role theory and especially the role episode model provides a basic structure for the underlying study being the starting point for further inductive category building. This means that role theory is not considered to be the one and only truth but it is considered to be a basic framework for further analysis. As acknowledged by the critics, it can be used as an orientational concept (Gerhardt, 1980). Another point is that the role episode model stresses the “dual approach” of the study, taking into account the views of the MAs and of the OMs. This “dual approach” is very well reflected by the role episode model depicting the role sender (OM) and the focal person (MA). Thirdly, the role episode model is a useful framework for answering the research objective. It supports the basic structure for the explanation of the “how” of the interaction and leaves room for explaining the “why” and also the feedback loop. As this study follows a qualitative and interpretive approach, the risk of superficial generalisation and explanatory restrictions based on a snapshot of data (Haug, 1972, p. 78) as in positivist research is minimised. Another point is that this study is not based on role theory in order to be based on a theory, but in order to direct the questioning in terms of focusing the research (Haug, 1972, p. 101). Thus, the illusive theory criticism is not relevant for the underlying research. The criticism with regard to the applicability to an industrial society or to certain layers of the society is less relevant for this research as it takes place in a purely business environment (Haug, 1972, p. 125). Also, the confusion of concepts is less applicable as the research focuses on the core role episode model and not on the whole body of role theory. Overall, despite various critiques on role theory, the role episode model is still considered useful for the underlying research. This is also supported by its further application in management accounting literature which is described in the next section.

3.2.7 Role theory in management accounting literature

This section briefly outlines the use of role theory in the extant management accounting literature. Since the publication of Katz and Kahn's first edition of "The social psychology of organisations" in 1966, role theory made an impact on both conceptual and empirical studies in the field of (management) accounting. Publications in nine leading accounting journals² are analysed in the period from 1966 to present. This analysis revealed 27 studies that are informed by role theory (Appendix C). The last decades of management accounting literature are characterised by an increase in the use of role theory, especially in the period from 1990 to 2009 when 16 out of the 27 studies are published. In the years from 2010 until present the development of further publications in management accounting based on role theory has decreased; three further recent studies were published in *Critical Perspectives on Accounting* and *Qualitative Research in Accounting and Management* (Roussy, 2013; Walker, 2017; Byrne and Pierce, 2018) and are thus not part of the list. Only three conceptual studies based on role theory were published in the total period. Among the 24 empirical studies, the quantitative survey method is applied most frequently (22 studies) whereby a few combine survey data with additional insights gained through interviews. A case study approach is chosen in only two of the empirical studies. The following summary of role theory in management accounting studies, focuses on the identified 27 studies which explicitly refer to Kahn and his colleagues' theory in their argumentation or hypothesis development. Appendix C summarises all identified studies based on the nine leading journals.

Managers' role stress has been revealed to be the central topic of the majority of management accounting studies that are built on role theory (Decoster and Fertakis, 1968; Hopwood, 1972; Otley, 1978; Hirst, 1981; Dunk, 1993; Ross, 1994; Abernethy and Stoelwinder, 1995). DeCoster and Fertakis (1968) were the first authors in management accounting literature to investigate role stress based on role theory. They

² Including the following A+ and A journals (according to the Harzing list 2016 and VHB ranking 2015): *The Accounting Review*, *Accounting, Organizations and Society*, *Contemporary Accounting Research*, *Management Accounting Research*, *Journal of Accounting Research*, *European Accounting Review*, *Journal of Accounting and Economics*, *Journal of Financial and Quantitative Analysis*, *Review of Accounting Studies*. Relevant studies have been identified with the help of an advanced database search for "role theory", "role expectation", "role stress", "role conflict" or "role ambiguity" in either title, abstract, key words or full text.

used role theory to interpret all types of communication from superiors and the detailed requirements regarding budgetary matters as role expectations and as the “closest source of pressure” for a manager (Decoster and Fertakis, 1968, p. 242). Their study suggests that budget-induced pressure is correlated with two particular types of leadership behaviour – initiating structure and consideration. On the other hand, the study illustrates that pressures from procedures for formulating budgets or budget administration are not related to either type of leadership behaviour (Decoster and Fertakis, 1968, pp. 245–246).

Hopwood (1972) uses role theory to connect supervisory styles, tension and dysfunctional behaviours. Hopwood (1972) distinguishes three supervisory styles: the budget-constrained style (meet short-term budget targets), the profit-conscious style (increase the general effectiveness of units’ operations) and the non-accounting style (accounting data unimportant for performance evaluation). Given the imperfect nature of accounting performance measures, it is argued that a budget-constrained supervisory style leads to role conflict and role ambiguity which in turn cause managerial stress and tension which result in dysfunctional behaviours (Hopwood, 1972). Thus, the “reliance on accounting performance measures” (RAPM) research stream is created, based on the investigation how role conflict and role ambiguity mediate effects on tension, dysfunctional behaviours and managerial performance (Birnberg, Luft and Shields, 2006, p. 122). Further examples of later RAPM studies built on role theory are Otley (1978), Hirst (1981) and Ross (1994).

Apart from the investigation of role stress, there are some studies which use role theory in a more holistic way (Collins, 1982; Jönsson, 1998; Marginson and Ogden, 2005; Marginson, 2006). Role theory is applied as a platform to elaborate on the relative importance of MCSs in clarifying job requirements and prescribing normative role behaviours in organisations. Collins (1982) develops three propositions on the value of MCSs which are informed by role theory. First, he argues that MCSs are useful in communicating role expectations to the focal person. Second, he stresses that the systems are important for motivation, as they can influence the intrinsic and extrinsic desirability of performing a given task or role. Third, he analyses that MCSs are expressive of the organisational atmosphere and thus helpful in socialisation processes.

MCSs indicate whether the organisational atmosphere is bureaucratic, democratic or autocratic. In general, management is concerned with identifying and articulating organisational purpose and also with directing organisational energy towards its achievement. It is in this context that MCSs are expected to be of high importance as they provide a valuable instrument to shape individuals' beliefs and focus organisational energy (Collins, 1982, pp. 108–110).

While the above named studies primarily address managers and managerial role perceptions, several other studies adopt role theory to the jobs of auditors, financial accountants and MAs (Hopper, 1980; Senatra, 1980; Rebele and Michaels, 1990; Byrne and Pierce, 2007; Maas and Matějka, 2009). The most comprehensive and relevant study for this research includes antecedents, characteristics and consequences of the roles of MAs and is provided by Byrne and Pierce (2007). Building on the work of Hopper (1980), the authors identify an array of factors which influence the roles of MAs (Figure 2.4 and Section 2.4). Byrne and Pierce (2007) consider operating managers as role senders who communicate their role expectations toward MAs. Some managers are reported to be comfortable with a narrower management accounting role which mainly focuses on information provision, while others expect MAs to occupy a broader partnering role which includes participation in decision-making. Additionally, Byrne and Pierce's (2007) findings illustrate that the MAs themselves are important drivers in the design of their own roles. It is their attitudes, personalities and initiative that appear to determine the role-making processes (Byrne and Pierce, 2007, pp. 487–489). Thus, the work of Byrne and Pierce (2007) helps to understand the interaction of normative role expectations, role-taking and role-making, perceived roles and actual role behaviours.

To conclude, prior studies successfully transfer key concepts of role theory into management accounting research and legitimate their value in the field. Role theory appears to be “a theoretical research structure around which research on the behavioural aspects of managerial accounting may be conducted” (Collins, 1982, p. 108). It supports the argumentation that MCSs and thus PMSs are an essential part of the explicit mechanisms of accountability that guide individuals to perform the role behaviours that the organisation prefers (Frink and Klimoski, 2004, p. 15). Thus, the general use of role

theory in management accounting research is promising because the theory is broad enough to provide researchers with a framework for their research but also specific enough to generate potentially testable hypotheses (Collins, 1982, p. 119) which are not needed here. For this thesis, the role episode model (see Section 3.2.5) will be used as a guiding framework for a comparative case study (see Section 4.7 and Chapter 4). Role theory and the role episode model are used to analyse deeper the interaction between the characteristics of a PMS and the role of the MA based on the knowledge gained by Byrne and Pierce (2007). The next section details additional theoretical perspectives used in further management accounting research.

3.3 Further theoretical perspectives

Many theories have been used to analyse management accounting and the role of the MA. Two articles published respectively in the top tier journal *Accounting, Organizations and Society* (Baxter and Chua, 2003) and in the *European Accounting Review* (Malmi and Granlund, 2009) summarise the main theories used for management accounting research. These summaries will be the basis for the following analysis. Institutional theory, contingency theory, structuration theory and actor-network theory (ANT) as well as agency theory, information economics theory, the Foucauldian approach and goal setting theory are all theories that informed the empirical literature in the field. Additionally, systems theory appeared to be a potentially considerable approach. However, an analysis of the content in more detail suggests that all of these theories can be considered less suitable with regard to the research objective of this study. The reasons will be detailed in the following.

Agency theory, information economics theory, the Foucauldian approach and goal setting theory can be disregarded on first examination because they do not fit with the research objective. Agency theory is not considered appropriate as it mainly deals with problems of cooperative effort, information asymmetry and opportunistic behaviour (Eisenhardt, 1989a; Baiman, 1990) which are not the focus of this research. Information economics theory recognises that information is not perfect, that it can be expensive to obtain information, that there are asymmetries of information and that the extent of these asymmetries is impacted by companies and individuals (Stiglitz, 2000, p. 1441).

As the research objective is about the interaction of the PMS characteristics with the role of the MA and the respective influential factors and not about information asymmetries, information economics theory is not considered suitable for this study. The Foucauldian approach focuses on dimensions of power, knowledge, ethics, freedom and independence (Ritzer, 2007, pp. 1776–1777) which – according to prior research such as Byrne and Pierce (2007) – do not play a major role for the underlying research objective of interaction. Also, goal setting theory, with its focus on the impact of goals on performance (Locke and Latham, 2006), is not considered suitable for a research objective looking at the interaction of a PMS on the role of the MA. The other theories named above are now briefly explained with their main applications in management accounting research. The intent is to sketch out the underpinning assumptions of the respective theories and map out their various strands.

Further theories like motivational theories, Bourdieu etc. are not further described and not considered as firstly, their usefulness is scarce in management accounting research and secondly, their usefulness could not be supported for the underlying research. Motivational theories only show behavioural aspects (Birnberg, Luft and Shields, 2006, p. 117) and do not describe and explain interaction between the PMS characteristics and the role of the MA. Bourdieu's concept of *habitus*, capital and field is not considered to be a suitable theory as it does not provide further input on the interaction of a PMS with the role of the MA. Furthermore, Bourdieu's theory is not strong in explanatory terms (Wacquant, 2006) and the underlying research also requires an explanatory component. The above named theories with a more common use in the literature review (Chapter 2) and with a potentially more interesting application for this research are now briefly summarised. The focus is on the application of the theory in management accounting context.

3.3.1 Institutional theory

An institution can be described as “a way of thought or action of some prevalence and permanence, which is embedded in the habits of a group or the customs of a people” (Hamilton, 1932, p. 34). Hodgson (2006, p. 2) defines institutions as a “system of established and prevalent social rules that structure social interactions”. This means that

actions are impacted by habits and routines of individuals or groups. Based on these definitions, an organisation could be said to demonstrate characteristics of an institutional nature and a PMS could be termed an institutional practice. However, the following will suggest why a purely institutional approach is considered to be less suitable for this thesis.

Moll, Burns and Major (2006) differentiate institutional theory into old institutional economics (OIE), new institutional economics (NIE) and new institutional sociology (NIS). OIE mainly concerns rules and routines. Applied to management accounting context, “rules comprise the formal management accounting systems” whereas routines are the practices in use (Burns and Scapens, 2000, p. 7). OIE provides a focus on organisational routines and their changes which is especially relevant for research on management accounting change or stability (Burns and Scapens, 2000, p. 4). Thus, OIE has been applied in recent research on the lack of change in management accounting (Burns and Scapens, 2000; Burns and Baldvinsdottir, 2005). NIE assumes that traditional economic concepts such as transaction costs (Moll, Burns and Major, 2006, p. 200) and rational optimisation (Moll, Burns and Major, 2006, p. 189) are applicable. Consequently, there is little importance of individual, group or external factors that might influence institutions (Moll, Burns and Major, 2006, p. 186). In management accounting research NIE has been used by researchers like Vosselmann (2002) to investigate MCSs with a transaction cost approach. However, in comparison to OIE, NIE focuses on the outcome of change neglecting the process and the dynamics which lead to the changed situation (Moll, Burns and Major, 2006, p. 201). Recent accounting research has also been influenced by NIS, with accounting researchers using NIS to explain how the adoption of accounting systems is influenced by external factors such as political or cultural pressure (Moll, Burns and Major, 2006, p. 190). In this type of research, management accounting research and practice is formed by professional associations, society and government rules (Moll, Burns and Major, 2006, pp. 187–188).

While the above mentioned literature gives evidence that institutional theory can be utilised in research on management accounting change, it is considered less suitable for the objectives of this thesis. First, NIE is more explanatory regarding observed phenomena in the past and explains the outcome of change, after it has taken place

instead of the dynamics leading to change (Soellner, 2000, p. 41; Scott, 2008, p. 495). However, the research objective of this study asks how the characteristics of a PMS influence the role of the MA and why this is the case – or not. Consequently, an explanatory framework looking at the dynamics of the process will be necessary to support the research findings. A second point is that recognised management accounting scholars like Scapens (2006) admit that institutionalism (OIE) alone is not a theory which can describe change in management accounting, and it needs to be supported by other theories (Scapens, 2006, p. 9). As change is supposedly a part of the interaction between characteristics of the PMS and the role of the MA, OIE is considered less appropriate. A third point is that some OIE institutionalists are only micro-oriented and NIS is only macro-oriented and top-down-oriented. For the underlying research, however, both views are considered necessary; the micro-level for the “how” and the macro-level for the influential factors. Working with OIE/NIE or NIS would mean that only extra-organisational or intra-organisational institutions are considered which is not the focus of this research. Furthermore, an OIE top-down orientation claims that institutions influence individuals but not vice-versa. However, the underlying research seeks to study the interaction between the PMS characteristics and the role of the MA which is a two-way relationship study and also focuses on the feedback loop. A fourth point is that OIE focuses on the process of change whereas the underlying research objective emphasises the inter-actionist elements. A fifth point is that NIE generally emphasises the institutional environment and institutional arrangements and tries to explain the existence of institutions through classical economic concepts (Moll, Burns and Major, 2006, p. 188). However, this is not the focus of the underlying research which investigates the interaction or the relationship between an institution and individual or group factors, i.e. a PMS and the role of the MA. According to NIE, however, individual and group factors are not considered to be important for influencing institutions (Moll, Burns and Major, 2006, p. 186). A last point is that NIS is macro-level-oriented and does not integrate the “generative capacity of actors into the perspective” (Moll, Burns and Major, 2006, p. 191). This is a further reason why it is less suitable for the underlying study which also needs to take a micro-look at the interaction of a PMS and the role of the MA. To conclude, institutional factors mainly influence qualitative research in the form of longitudinal research (Burns and Scapens,

2000, p. 23) whereas the underlying study will use semi-structured problem-centred interviews as a base for a comparative case study (see Chapter 4).

3.3.2 Contingency theory

Contingency theory, or the situational approach, was developed in organisational research in the 1960s and 1970s (Preisendoerfer, 2008, p. 78). The contingency theory of organisational structure presently provides a major framework for the study of organisations. It claims that the most effective organisational structural design is where the structure fits the contingencies (Donaldson, 2006, p. 19). The contingency theory of organisational structure can be referred to as structural contingency theory (Donaldson, 2006, p. 20). The assumption underlying contingency theory is that no single type of organisational structure can be equally applied to all organisations (Islam and Hu, 2012, p. 5159). Each organisational structure is influenced by the situation of the organisation. Thus, contingency theory is also called situational approach (Preisendoerfer, 2008, p. 81). The situation of the organisation can be split into dimensions of the internal and external situation (Preisendoerfer, 2008, p. 83). Method-wise, contingency theory introduced empirical studies based on large samples and multivariate methods of analysis into organisational sociology (Preisendoerfer, 2008, p. 84).

In management accounting research, contingency theory has been used in order to address three questions: the fit between organisational control and structure, the impact of such fits on performance, the investigation of multiple contingencies and their impact on organisational design (Islam and Hu, 2012, p. 5161). Hofstede (1968) investigated that cultural, economic, technological and sociological considerations had a considerable impact on the functionality of a budgeting system. Hayes (1977) measured the effectiveness of various departments in large organisations and identified contingency factors as the major predictors of effectiveness for production departments. Flamholtz, Das and Tsui (1985) reviewed the contingency literature and found out that the issue of control is studied along sociological, administrative and psychological perspectives. The sociological perspective focuses on the organisation itself and the groups within it. The administrative perspective emphasises the individuals or departments within an organisation. The psychological perspective stresses goal and

standard setting, rewards and feedback. Research scholars such as Govindarajan and Gupta (1985) studied the relationship between companies' strategies and the design of their control systems. Merchant (1985) discovered contingent relationships between corporate contextual factors, such as size of the company, product diversity, extent of decentralisation and the use of budgetary information. Banker, Datar and Kemerer (1991) investigated the impact of structural factors and detected that companies which implemented team-work programmes were more likely to deliver information about performance to shop-floor workers. Some research scholars studied the influence of external factors such as the impact of environmental uncertainty. The latter was found to be a main explanatory variable with regard to accounting data being appropriate in evaluating the performance of business units (BUs) (Fisher, 1998; Chenhall, 2003).

While it is obvious from the above mentioned literature that contingency theory can be utilised in research on management accounting, it is deemed less suitable for the objectives of this thesis. First, contingency theory does not support the analysis of individual actors (MA, manager etc.) and thus the role of the MA. While contingent factors frequently play a role in a qualitative study and Byrne and Pierce (2007) use it in their study, contingencies are not the focus topic of the research. The main research objective remains the interaction of the PMS characteristics with the role of the MA which necessitates an explanatory framework. Another point is that contingency research tends to deliver less surprising results, especially from a practitioner's point of view (Kieser, 2002). A further criticism deals with the conservative impact of contingency theory which does not sufficiently describe change (Kieser and Segler, 1981). As change is supposedly a part of the interaction between characteristics of the PMS and the role of the MA, contingency theory is considered less appropriate for this research.

3.3.3 Structuration theory

According to Baxter and Chua (2003), structuration theory has contributed significantly to qualitative management accounting research. It is strongly characterised by Giddens in different works, but principally in "The Constitution of Society" (1984). Stones (2005) develops Giddens' work, offering "strong structuration" theory. Both Giddens'

and Stones' concepts have been used by accounting scholars as a framework to analyse accounting systems. The following is a brief summary of the literature detailing both structuration and "strong structuration" theory. Macintosh and Scapens (1990) used structuration theory to examine the role of management accounting in producing meaning, power and morality and to examine the role of these systems in organisational change. Furthermore, they explored how MASs change over time and why there might be resistance to change in management accounting practices. Scapens (2006) generally uses structuration theory in his own research journey of management accounting in order to make sense of practice after having experienced the use of other different theories. Ahrens and Chapman (2002) and Conrad (2005) use structuration theory to examine aspects of accountability as well as trade-offs between legitimacy, signification and domination over time. The above mentioned studies show how structuration theory can be used as a "sensitising framework" for the analysis of MASs in organisations. Several other researchers have also adopted a strong structuration approach based on the work of Stones (2005). Jack (2005) utilised strong structuration theory to investigate why certain accounting practices have persisted over a 50 year period, specifically examining the use of gross margin in UK agriculture. Jack and Kholeif's (2008) investigation of how the introduction of an enterprise resource planning (ERP) system impacted the role of the MA was originally conducted using a mixture of Giddens' structuration and institutional theories. Stones' (2005) strong structuration theory facilitated an extended analysis of existent earlier work which is presented in Jack and Kholeif (2008). Last, but not least, Coad and Herbert (2009) combined a strong structuration approach with a skeletal model of the structuration process to analyse management accounting practices in a privatised utility company. To conclude, structuration theory applied in management accounting research mainly studies the impact of the MA's behaviour on societal context and how society leaves an imprint on behaviour (Englund and Gerdin, 2014, p. 2).

Even though the above mentioned literature gives evidence that structuration theory can be used in research on the MA's role, it is less suitable for the purposes of this thesis for a number of reasons. Firstly, as structuration theory only provides a meta-level framework for explaining agency and structure (Giddens, 1984, p. 326), it is not considered to be appropriate for the underlying research which does not solely look at a

meta-level but at the precise interaction between a PMS and the role of the MA. The “duality of structure” mainly supports the assumption of interaction between PMSs and MAs’ roles but does not try to explain the reasons behind this interaction. Strong structuration theory provides a meso-level framework which is supposed to give an empirical explanation. Despite the fact that Stones’ strong structuration theory approach provides a more explanatory approach (Stones, 2005, p. 1), it still does not permit predictions on interactions, but rather gives explanatory elements for past behaviour. However, these predictive elements in terms of influential factors of the interaction are an important part of this research. Secondly, the feedback loop of the MA’s role to the characteristics of a PMS is not sufficiently described within structuration theory. As this feedback loop is an important part of the research objective (and *vice versa*), structuration theory is deemed less appropriate. Thirdly, Jack and Kholeif (2007) are particularly focused on the use of Stones’ (2005) framework to support longitudinal research. However, for this study and its research objective (Section 4.7), longitudinal research is not considered to be value-adding. Fourthly, neither Giddens’ (1984, p. 28) three dimensions of signification, legitimation and domination nor Stones’ (2005, p. 84) four components of duality of structure (external structures, internal structures, active agency, outcomes) are the focus of the underlying research objective which renders structuration theory less attractive for this study. Fifthly, Giddens’ view of structuration offers a conceptual mechanism for explaining the reproduction of social structure. However, Stinchcombe (1986) argues that why some forms of social reproduction succeed and become institutionalised and others do not, are questions of more relevance to contemporary researchers. It appears that structuration theory does not offer direct answers for this type of question. As influential factors of the interaction are also an important part of the research objective, structuration theory appears to be less appropriate with regard to this aspect. A further criticism is directed at the lack of concrete empirical examples in Giddens’ own work. Critics like Gregson (1989) argue that Giddens’ abstract conceptual focus offers few clues as to how to gather useful understanding of the world of practice. As the empirical evidence collected in the world of practice is the base data for this research and as the researcher’s world view is based on a constructive ontology (see Section 4.3), structuration theory also appears to show some deficiencies for use in this research. Another limitation of structuration theory is that it does not allow the examination of the relationship between agency and structure

beyond the recognition that structure both enables and constrains individuals (Monteiro and Hanseth, 1996). The underlying research objective aims at going beyond this point and is consequently not applying structuration theory.

3.3.4 ANT

ANT extends the concept of the actor to non-human actors and denotes them actants. These actants are weaved together in the form of networks. Networks are the elements “out of which both individual identity and social organisation are constructed” (Ritzer, 2007, pp. 21–22). Translation is the creation of an actor-network and four stages characterise the translation process. Problematisation is the stage where the problem and actors are defined and make themselves indispensable. During the interessement stage the focal actor convinces the other actants to accept the definition of roles and identities. Enrolment is the stage where the others accept the focal actor’s definition. The fourth stage, mobilisation, seeks to solidify the network (Callon, 1986). Consequently, ANT is based on the idea that all entities acquire their characteristics through their relations with other entities.

Although ANT is seemingly less used than structuration theory in management accounting, it is generally classified as one of the top tier journal theories in empirical management accounting literature (Malmi and Granlund, 2009). It has been used by a number of management accounting scholars in studies of change and stability. Correspondingly, ANT research within management accounting frequently illustrates how management accounting numbers are constructed to absorb and follow diverse interests within organisations (Baxter and Chua, 2003, p. 102). Alcouffe, Berland and Levant (2008) use ANT to investigate how management accounting innovations are spread through the translation process. They study French cases of how two management accounting techniques were included in actor-networks over an extended time period. Their study uses ANT to investigate innovations and the way accounting figures are constructed in order to influence interests. Also further researchers place the calculation at the heart of the research based on ANT. Jones and Dugdale (2002) studied the story of activity-based costing. Further accounting researchers working with ANT look at the effects of the implementation of accounting technologies (e.g. see Briers and

Chua, 2001; Emsley, 2008), intellectual capital (e.g. see Mouritsen and Flagstad, 2005; Mouritsen, 2006), their effects in inter-organisational arrangements (e.g. see Cuganesan and Lee, 2006; Chua and Mahama, 2007; Mouritsen, Mahama and Chua, 2010) and accounting for water (e.g. see Egan, 2014; Jollands and Quinn, 2017).

Despite the fact that ANT is a potentially viable theoretical approach to study the role of the MA and particularly the change of this role, it is not adopted in this thesis. ANT looks at the behaviour of actors in the formation of a network whereas the present study looks at the how and why of the interaction of characteristics of a PMS with the role of the MA. This means that a content-wise fit with regard to the research objective cannot be supported. Another point is that ANT research is very descriptive and does not try to explain behaviour and the reasons behind an interaction (Bloomfield and Vurdubakis, 1999; Miles, 2012). Another point of critique of ANT is the position of the researcher. The role of the researcher in labelling actors, defining passage points, scoping the actor-network, telling the story etc. is very influential in the results that an ANT study delivers (McLean and Hassard, 2004). The researchers enter the study with their own theoretical backgrounds, ideas and preconceptions (Clarke, 2002). As the present study is less preshaped, ANT is not considered a suitable approach. Furthermore, critics (McLean and Hassard, 2004) assert that reliance on the configuration of actor-networks is not enough to explain why and how some actors are more empowered, while others are dis-empowered. In addition, it is not considered sufficient to understand that actors hold particular beliefs or interests. Instead, an analysis is needed to understand how and why a certain actor has taken these beliefs for granted and how they have shaped the actor's interests. Monteiro (2000) highlights several issues regarding ANT as a methodology. These include that unpacking a network will cause an explosion in terms of complexity as each actant can potentially be expanded into another whole actor-network. Furthermore, ANT does not specify how to delineate one actor-network from the next (Monteiro, 2000). Looking beyond the criticisms of ANT, a number of researchers (Cordella and Shaikh, 2003) have argued that – using ANT as a lens in interpretive research – contradicts ANT's fundamental ontological stances where reality is constructed by the interplay of actors and not only in the mind of the interpreter. As the focus of the underlying research is different, ANT is not applied in this study.

3.3.5 Systems theory

A system, in an abstract sense, can be seen as a set of objects in which relationships among the objects are formed (Ritzer, 2007, p. 2922). Systems theory has the objective to compare systems. Different types such as organisms, machines, physico-chemical, psychic and social systems can be distinguished (Stichweh, 2011, p. 2579). Systems theory was applied to different empirical phenomena in sociology as well as in other disciplines. The major contribution is developing methodological and conceptual tools to investigate complex interdependencies of social phenomena. This includes multi-dimensionality, inter-structural problems and action structure loops. Multi-dimensionality entails multi-level phenomena considering human agency as well as institutionalism and culture. Inter-structural problems involve social conflict and instability which generate social transformation. Complex feedback loops between institutions and their environment cause instability (Ritzer, 2007, p. 4927).

Systems theory is a very holistic approach and thus facilitates the cooperation among social, medical, natural and engineering sciences. Furthermore, it contributes to common concepts and a common language in the social sciences. On the other hand, systems theory is criticised for not providing common concepts for all sub-branches of social sciences and humanities. This means that a meta theoretical framework is missing in order to address major contemporary problems (Ritzer, 2007, p. 4928). Carenys (2012) and Amigoni (1978) use systems theory in order to explain MCSs. Carenys (2012) finds that limitations of MCSs need to be surpassed and that a meta framework of management control is missing. Psychosocial and cultural aspects need to be integrated. Amigoni (1978) uses systems theory in order to propose a conceptual framework applicable for the design and implementation of a MCS in any company.

While systems theory has been used in some research on MCSs, it is deemed less suitable for the objectives of this thesis for the following reasons. First, the focus of systems theory is on meta-theory and meta-frameworks, which makes it less appropriate for the underlying study as this research focuses on a specific interaction between characteristics of the PMS and the role of the MA. Second, systems theory does not take into account the actors (i.e. managers and MAs) but primarily systems. Even if actors can be defined as systems on their own, it does not address the research question

sufficiently content-wise. Third, systems theory focuses primarily on the description, whereas the underlying research also requires an explanatory part. A further criticism is aimed at Luhmann's (1984) assumption that systems are built and structured by communication, i.e. a "special language" (Jensen, 1999, pp. 395–396). This study focuses on action and activities and not only on communication which is another reason for not using it. Last, in systems theory-based studies, interactions tend to be known beforehand and a research model is built beforehand (Janz, 2004, pp. 74–75) which does not fit to the research methodology of this study (Chapter 4).

3.4 Chapter summary

This chapter focused on selecting a theoretical approach for explaining the interaction of the characteristics of a PMS with the role of the MA. Based on further research in the area and an extensive literature review, theoretical perspectives of role theory were presented, particularly focusing on the concepts and vocabulary relevant to the role episode model. Katz and Kahn's (1978) role episode model was then considered for its relevance to the core research objective (Section 3.2.5). It was identified as being particularly suitable as it complements the explanatory underpinnings of the interaction of the PMS characteristics with the role of the MA. Then, role theory in the management accounting literature was analysed demonstrating its timeliness for management accounting research. Various alternative theoretical approaches for this research were also considered and outlined; reasons were given for not adopting them in this thesis. Based on the research objective and the chosen theoretical approach, the set of assumptions on ontology, epistemology, methodology and methods will be introduced in the next chapter.

CHAPTER FOUR: Research methodology and methods

4.1 Introduction

A detailed study of management accounting and performance management practice (see Chapter 2) requires interaction with the field. This chapter outlines the research methods employed in this study based on the theoretical approach proposed in Chapter 3. Crotty (2015) suggests that the issues of philosophy, theoretical perspective, methodology and method represent distinct levels of decision-making within this research design process. This process is represented throughout this chapter.

First, the main research objective and guiding rSQs of this study are provided (Section 4.2). Next, the philosophical approach (Section 4.3) underpinning the chosen methodology is described, defining the sociological paradigms existing in management accounting literature (Section 4.4). Then, the appropriate research methodology is detailed (Section 4.5). The research strategy is presented drawing on the role episode model (Section 4.6). While Section 4.7 explains the choice of a case study method for this research, Section 4.8 outlines the actual methods used including data generation and data analysis. Section 4.9 describes the quality criteria applied for this study. The rationale behind the choices will be explicitly detailed in the respective sections of the chapter. The chapter closes with the limitations of the case study approach and a chapter summary.

4.2 Research objective and rSQs

The purpose of this section is to detail the research objective of this study with the rSQs and to explain how the rSQs were derived based on the literature review (see Chapter 2). Section 4.6 will outline how the rSQs were operationalised further around the role episode model. This research can be considered interdisciplinary as two main strands of literature, management accounting (on the role of the MA) and management control (on PMSs), are drawn upon. With regard to PMS literature, Parker (2012, p. 66) explicitly states that performance management remains an area of continuing importance. However,

[...] questions of [how the] organisational control systems, management accounting and performance measurement and management interact, remain outstanding (Parker, 2012, p. 66).

This interdependence principle is taken up by Schleicher *et al.* (2018, p. 2230) who stipulate the “examination of multiple [PMS] components” and the examination of “the interdependencies (and conflicts) that likely exist when individuals hold multiple roles”. As a part of this question, Byrne and Pierce (2007) define PMSs as antecedents of the role of the MA. However, they identify performance management as one antecedent among many others and do not investigate the question of how and why this is the case in more detail. The overall research objective addresses both strands of literature by addressing the how and why of the interaction of a PMS with the role of the MA and *vice versa*. In order to operationalise this overall research objective, it is split into two main rSQs (rSQ3, rSQ4) and two contextual rSQs (rSQ1, rSQ2). Due to an interdisciplinary research objective, an interdisciplinary sample (i.e. MAs and OMs – see Section 4.7.3) is necessary. RSQ1 and rSQ2 both deal with two separate concepts or units of investigation looked at coming from separate research areas, whereas rSQ3 and rSQ4 address the main research objective with the interaction between the two concepts and the potential influential factors. These rSQs are detailed below, following the order of analysis and numerical order (and not the order of importance – see Section 1.2).

- RSQ1 deals with the role of the MA based on the activities of the MA and more precisely the role episode model by Katz and Kahn (1978). It addresses “What are the perceived roles of the MA?” It serves as background information on what is expected from the MA in the respective occupational group or organisation and what the MA’s activities are. Furthermore, rSQ1 partly draws on the underlying role episode model (Section 3.2.5) and on empirical management accounting literature based on the research of Järvenpää (2007) (Section 2.2).
- RSQ2 deals with the key characteristics of a contemporary PMS and is derived from the research of Ferreira and Otley (2009) who consider a PMS as a framework (Section 2.3.4). It asks, “What are the perceived key characteristics of a contemporary PMS?” This question is necessary to understand the characteristics and perceptions that interviewees have in mind when talking about the characteristics of a PMS. They can also potentially base their

experience on non-financial PMSs according to Kaplan and Norton (1993) or strategy-driven PMSs according to Simons (1995) (Section 2.3.4). This information needs to be investigated first to operationalise the PMS characteristics and to be able to draw further conclusions about a potential interaction.

- RSQ3 addresses the how of the interaction of both concepts detailed in rSQ1 and rSQ2. It asks, “How do the characteristics of a PMS interact with the role of the MA and *vice versa*?” It is based on the research of Byrne and Pierce (2007), who declare a PMS as an antecedent of the role of the MA (Section 2.4). However, they do not clarify further how this antecedent influences in detail and why it is the case. Byrne and Pierce suggest further research in this area in terms of “refinement to develop particular antecedents [...] and roles of MAs” (Byrne and Pierce, 2007, p. 494). Another point is that Byrne and Pierce do not go into further detail and investigate the characteristics of the underlying PMS.
- Last, rSQ4 deals with the influential factors of interaction. This point is also enlarging and structuring Byrne and Pierce’s (2007) antecedents research, and also adds to the PMS literature (Ferreira and Otley, 2009) and the role episode model (Katz and Kahn, 1978). The overall research objective and rSQs guide the further choices described in this chapter.

4.3 Assumptions on knowledge and research philosophy

The term research philosophy relates to the nature of knowledge and to the development of knowledge. The adopted philosophy contains assumptions about the way in which the researcher views the world. These assumptions underpin the research strategy, methodology and the chosen methods (Saunders, Lewis and Thornhill, 2009, pp. 107–108). Thus, the following section reflects on the philosophical choices and their impact on the underlying study (Johnson and Clark, 2006). A combination of certain philosophical assumptions that guide thinking and action defines potential paradigms (Mertens, 2015, p. 7). In this context, the term paradigm is defined “as the basic belief system or world-view that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways” (Guba and Lincoln, 1994, p.

105). Any given paradigm represents the most informed view that its followers have been able to develop. The answers to the questions of ontology, epistemology and methodology are human constructions and hence subject to human error (Guba and Lincoln, 1994, p. 108). Four basic belief systems define paradigms based on the following questions drawn from Guba and Lincoln (2005, pp. 167–169) and Mertens (2015, p. 10):

1. The axiological question asks, “What is the nature of values?”
2. The ontological question asks, “What is the nature of reality?”
3. The epistemological question asks, “What is the nature of knowledge and the relationship between the knower and the would-be known?”
4. The methodological question asks, “How can the knower go about obtaining the desired knowledge and understandings?”

In Sections 4.3 and 4.4, the author’s paradigm based on questions one to three of the above and the effects on research are described in detail. Question four is the focus of Sections 4.5 to 4.8.

This research is based on the assumption that individuals search for an understanding of the world in which they live and work. Individuals develop subjective and multiple meanings of their experiences, inducing the researcher to look for the complexity of views rather than categorising ideas. The objective of the study relies on participants’ views. Questions in such research are broad and general so that the participant can construct the meaning of the described situation. In this study, the settings are formed through interaction (a PMS with the role of the MA), partly historical (change) and partly contextual norms (European organisations). The main process addressed is the interaction though (Section 4.2). The researcher recognises that one’s own professional background forms the interpretation of the findings but additionally claims to make sense of the meanings others have about the world (Creswell, 2014, p. 8).

Taking the axiological question per above, the following is adopted in this research. Axiology is a strand of philosophy that studies judgements about value. Transparency of the role of the researcher’s values are important in all stages of the research process.

Heron (1996, p. 11) claims that values are the guiding principle of all human action. He argues that all choices of the research process are influenced by values. The choice of the topic is influenced by a personal judgement of importance, the choice of philosophical approach is based on personal conviction about the environment and the choice of data collection technique is based on preferences of interaction. Last, personal values lead to conclusions from the data analysis which might not be drawn from fellow researchers with other values (Saunders, Lewis and Thornhill, 2009, p. 118). For this study, the research is based on values acquired during the researcher's education and professional experience. The research topic was chosen based on practical relevance and consideration of importance, and the philosophy and technique are based on the preference of personal interaction with the field. Research quality is also derived from the researcher's values and is further detailed for this study in Section 4.9.

With regard to ontology, question two above, this constitutes a way of thinking about research philosophy, that is, ontology examines the nature of reality. Objectivism is one strain of ontology and describes how social entities exist independently of social actors (Saunders, Lewis and Thornhill, 2009, p. 110). Objectivist studies focus on the explanation of phenomena whereas constructive studies emphasise understanding (Given, 2008, p. 116). For the study of the interactions between characteristics of a PMS and the role of the MA, the researcher deems it more appropriate to focus on the way the MAs and OMs attach their meanings to their activities and the way they think that the occupation should be performed. This view is based on subjectivism which claims to understand the meanings that individuals attach to social phenomena (Saunders, Lewis and Thornhill, 2009, p. 111). Thus, the details of the situation need to be studied in order to understand the reality. This is termed social constructionism, which considers reality as being socially constructed by human beings as they engage with the world they are interpreting and they do not reflect an objective external world (Given, 2008, p. 118). It is the role of the researcher to seek to understand the subjective reality of the social actors in order to be able to understand and make sense of their intentions, motives and actions in a way that is meaningful (Saunders, Lewis and Thornhill, 2009, p. 111). Constructive researchers construct meaning and work with objects in the world. Meaning is born out of humans engaging with their human world (Crotty, 2015, pp. 44–45). This constructive idea is influenced by the hermeneutic tradition which refers to the

interpretation of texts – originally especially in biblical studies (Crotty, 2015, p. 87). The German philosopher Heidegger (2018) transported the concept into social philosophy relating it to the interpretation of human behaviour, language and institutions (Ryan, Scapens and Theobald, 2002). According to hermeneutics, the meaning of individual words depend on the context of the sentence and *vice versa*. This also applies to sections of the text in relation to the entire text and to individual experience in relation to the social world. The process is called hermeneutic circle as there is no starting or end point and meaning is developed in the dynamic process of interpretation (Given, 2008, p. 116). This constructive ontology is aligned with the method, as the inquirer will use a semi-structured interview guideline with open-ended questions, so that the participants can share their views in detail (see Section 4.8) (Creswell, 2014, pp. 8–9) and so that the hermeneutic interpretation can take place.

Epistemology, question three above, is concerned with what is regarded as acceptable knowledge in a discipline (Bryman, 2016, p. 24). The constructive ontology, noted above, is in line with an interpretive epistemology, which means to investigate the subjective meanings motivating the actions of social actors, in order for the researcher to be able to understand these actions. Business situations are not only complex, they are also unique. They are a function of a particular set of circumstances and individuals coming together at a specific time (Saunders, Lewis and Thornhill, 2009, p. 116). Epistemology generally advocates what constitutes acceptable knowledge in a field of study (Saunders, Lewis and Thornhill, 2009, p. 112). Interpretivism implies that the inquirer and the inquired-into are interlocked in an interactive process and influence each other (Mertens, 2015, p. 19). Taking the research objective of the how and why of the interaction of the characteristics of a PMS and the role of the MA, a deep interaction with the field is necessary and useful in order to get further insights which cannot be found in existing documents or survey questions. Thus, the researcher seeks to understand the context or setting of the participants through visiting this context and gathering information personally. The researcher also interprets findings and shapes the interpretation, through personal professional experience and background. An interpretive epistemology is consequently aligned with the research objective and the underlying methods (as shown later – see Sections 4.5 to 4.8) (Creswell, 2014, pp. 8–9).

Other streams of research philosophy are considered less appropriate for the following reasons. Positivist research philosophy seeks law-like generalisations similar to natural scientists, which is not the focus of the underlying study. Positivist research does not look at the richness of patterns in relationships, but at generalisable frameworks. For this research, rich insights would be lost, reducing the investigated interactions to generalisable hypotheses. Furthermore, it is assumed that value-free research is practically impossible, given the nature of the interviewees and the data sought (Saunders, Lewis and Thornhill, 2009, p. 114). Realist philosophy is considered less appropriate, as the researcher does not believe in a reality independent of the human mind, but supports a strong interaction between both (Saunders, Lewis and Thornhill, 2009, p. 115).

As a consequence, a constructive ontology combined with an interpretive epistemology is adopted in this thesis for several reasons. First, the philosophy concurs with the researcher's world view. The knowledge that evolves through a constructive lens is based on the participants' view of the situation (Creswell, 2014, p. 8). While constructive researchers do not seek the "truth", they want to interpret the meanings others have about the world. They believe they interact with the field while acknowledging that their own subjectivity is shaping that reality (Creswell, 2014, pp. 8–9). Second, social constructionism is well suited to case study research (see Section 4.7) as in qualitative research, reality is "constructed by individuals interacting with their social worlds" (Merriam, 1998, p. 6). Thus, the philosophy is aligned with the methodology and the methods based on the research objective. This study will use a case study method to tease out the interaction of characteristics of a PMS and the role of the MA. In this respect, social constructionism has aspects of creating understanding, integrating multiple participant meanings, constructing a social and historical "reality" and generating theory (Creswell, 2014, p. 6). Thus, in order to address the research objective of this thesis with its relevant rSQs, requires detailed knowledge of the relevant subjects (e.g. MAs, OMs, PMSs etc.) and the social world in which they operate. An understanding of this world provides a foundation for interpretation for the researcher. Thus, in summary, the adoption of interpretive epistemology and a constructive view of ontology supports the nature of the research objective in this thesis.

4.4 Sociological paradigms in accounting research

A frequently cited classification of sociological paradigms is given by Burrell and Morgan (1979). They present four basic paradigms, namely functionalist, interpretive, radical humanist and radical structuralist. According to this classification and to the assumptions on knowledge in Section 4.3, the underlying research can be characterised as interpretive. It is concerned with understanding the world as it is and follows an anti-positivist approach. It looks at the social world as a process which is created by the individuals concerned. Explanations are considered subjective and based on individual consciousness (Burrell and Morgan, 1979). Hopper and Powell (1985) extend the ideas of Burrell and Morgan (1979), by specifically applying the classification to accounting research. They identify three main approaches of accounting research as mainstream, radical and interpretive. In contrast to Burrell and Morgan (1979), Hopper and Powell (1985) treat the subjective-objective dimension as a continuum rather than a dichotomy. Thus, sub-divisions of schools of thought are possible and the radical anti-positivist approach does not apply to this interpretation of the interpretive paradigm (Hopper and Powell, 1985, p. 432).

The adoption of this interpretive paradigm implicates the following advantages and potential issues for the research: Hopper, Otley and Scapens (2001, p. 282) consider it advantageous that theory and empirics are closer to practical concerns and promote interdisciplinarity. This point is important in this study, as it is based on interdisciplinary literature (Chapter 2) and uses an interdisciplinary sample (Section 4.7.3). Another point they stress is that case study research reveals rich detail on internal organisational processes which is the focus of the underlying study. In contrast to positivist research, interpretive research assists in answering “how” questions and understanding management accounting practices (Lukka and Mouritsen, 2002, p. 809) but does not hold statistical rigour (Lukka and Mouritsen, 2002, p. 806). According to Ahrens *et al.* (2008, p. 842), poly-centrism is an important strength in interpretive research. It enables the researchers to adapt their theories, methodologies and methods to highly specific research areas and questions. A new identity of interpretive accounting research may lie in emphasising the accumulation of knowledge instead of focusing merely on novelty.

On the other hand, interpretive accounting research has been criticised for not providing “good data”, for not contributing to theory development, for employing non-economic-based frameworks and providing few empirically testable theories (Zimmerman, 2001, pp. 419–424). Hopper, Otley and Scapens (2001, p. 282) argue that interpretive research shows a strong commitment to case study research, which is not without its problems. It is said to lack generalisability and novelty tends to prevail at the cost of theory building. Additionally, it is said to lack rigour, to be “unscientific” and subjective, not to be “value free” and not to produce verifiable truth statements (Guba and Lincoln, 2005; Yin, 2009). These potential issues are firstly outweighed by the above-named advantages. Secondly, they apply only partly to the underlying research as the data were carefully and rigorously collected (see Section 4.8), as the case study design permits extension to other settings (see Section 4.7) and as it builds on the role episode model as a theoretical framework (see Section 4.6). Thirdly, a qualitative researcher investigates a world of intangible relationships, understandings, meanings and interpretations which are multidimensional and cannot exist independently of actors and researchers. All researchers bring values, such as prior education and experience, disciplinary focus, understanding of literature and their paradigm, to their research. Recognising these involvements, the researcher is able to structure the interpretation of the data and to draw insightful conclusions. Fourthly, theoretical depth, richness and uniqueness are the focus of interpretive research. Thus, theoretical transferability is targeted and difference is rated as highly as similarity (Parker, 2003, p. 17). To conclude, Parker (2003) claims that the above mentioned criticisms are mainly due to a lack of knowledge about interpretive research, which is also reflected in a minority use in the beginnings of the academic discipline of accounting.

To cope with the above-mentioned minority use in accounting, there are several calls for an intensified use of the interpretive perspective like Chua’s (1986) call for radical development in accounting thought in 1986. In the early 1980s there were calls for more management accounting and control related field research (Kaplan, 1983, 1984). Research topics within interpretive management accounting research are diverse (Ferreira and Merchant, 1992, p. 24). Burns (2014) states that, particularly between 2009 and 2014, articles published in *Qualitative Research in Accounting and Management* focus on the development and change of management accounting practices

over time (Moilanen, 2008; Busco and Scapens, 2011; Sánchez-Rodríguez and Spraakman, 2012; Elharidy, Nicholson and Scapens, 2013; Rautiainen and Scapens, 2013). As Chua and Mahama (2012) claim, interpretive management accounting research produces contextualised knowledge of how change in accounting and control is an interactive effect of complex and unpredictable associations of multiple entities. This includes changes in social, cultural, political and economic conditions. In contrast to mainstream positivist management accounting research, these findings lead to a reinterpretation of management accounting.

Further topics featured in interpretive management accounting research are analysed by Ferreira and Merchant (1992), who investigated 82 qualitative field studies between 1984 and 1992. According to Ferreira and Merchant (1992, p. 4), field studies are defined as studies where the researcher has direct contact with the field, where real tasks or processes are focused, where the research design evolves with the study, where context plays an important role and the academic community is addressed. Field research is particularly powerful for studying issues that are not yet well understood, that are complex or contextually contingent, that require analysis of data that are not publicly available (Ferreira and Merchant, 1992, p. 24). In this context, there are studies about the impact of advanced manufacturing technologies in the design and use of MISs (Kaplan, 1990; Kellett and Sweeting, 1991). There are also studies to develop new classification systems (e.g. Simons, 1987), to develop measures for previously identified concepts (e.g. Banker and Datar, 1987) and to test theories and hypotheses (e.g. Maher, 1987). Last but not least, field studies are also used for the analysis of management control aspects (e.g. Merchant and Ferreira, 1985; Dent, 1987; Knights and Collinson, 1987; Armstrong, 1989; Simons, 1990) which makes the interpretive approach especially appealing for the underlying research. In addition, interpretive research can also produce theory-driven explanations and understandings (Van der Meer-Kooistra and Vosselman, 2012, p. 253). The viewpoint of the researcher may be informed by different theories which can either be made explicit (e.g. Covalleski and Dirsmith, 1986) or remain more diffuse (e.g. Vaivio, 2006). Regardless, *a priori* theories serve as “guides” for researchers in formulating research questions and in explaining masses of “unstructured data” (Ahrens and Dent, 1998; Ahrens and Chapman, 2006). To

conclude on paradigms, this section summarised the reasons why the interpretive paradigm is so valuable for this study.

4.5 Qualitative research strategy and research method

This section describes the use of qualitative methods in the present thesis. As described in Section 4.3, a constructive philosophical approach is adopted which fits best with qualitative methods. On the other hand, traditional positivist accounting research methods are less able to provide the richness of analysis required to “explain individual behaviour” (Ryan, Scapens and Theobald, 2002) and to explain the “how”. Qualitative methods used in interpretive studies take the researcher beyond economics and consultants’ views (Vaivio, 2008, p. 80). Marshall and Rossman (2011, p. 68) note qualitative research designs are suited to explanatory questions such as understanding business processes. As described in Section 2.2, management accounting is potentially an institutionalised practice within organisations, involving habitual behaviour and routine that constitute to “how things are actually done” (Burns and Scapens, 2000, p. 6). Thus, contact with an organisation is essential. Such contact is possible with qualitative research methods, as such methods are suited to “real life” contexts where flexibility and pragmatism are required (Modell and Humphrey, 2008, p. 93).

According to Trauth (2001, pp. 4–11), there are five factors influencing the choice of qualitative methods in research. The first and most significant factor is the research problem itself. “That is, *what* one wants to learn determines *how* one should go about learning it” (Trauth, 2001, p. 4). In the underlying study, the research is about the how and why of the interaction of the characteristics of a PMS with the role of the MA (Section 4.2). As there is no explicit extant research available on the research focus, one method to find out is to immerse oneself in the world of the MAs and OMs working on a PMS. The second factor determining the choice of qualitative methods is the theoretical lens used to frame the investigation. As discussed in Section 4.3, this study uses an interpretive paradigm with the intent to understand a deeper structure of the interaction within contextual situations (Trauth, 2001, p. 6). The level of uncertainty surrounding the studied phenomenon is another important factor in the choice of qualitative methods. For the underlying study, a PMS is determined as an antecedent of

the role of the MA by Byrne and Pierce (2007). However, as mentioned, the how and why of this relationship has not been studied yet. The last two influencing factors are the researcher's skills, knowledge and experience and the academic politics (Trauth, 2001, pp. 8–10). As the researcher is an experienced management accounting practitioner, qualitative research methods are more closely linked to practitioner experience than statistical methods. In addition, the researcher's practitioner experience has implied exposure to a graphical representation of information, which supports the use of concepts maps (see Section 4.8.2) as well as the graphical representation of the analysis of findings (see Section 4.8.4 and Chapters 5 and 6 for the findings). The last factor, politics, did not play a major role in the choice of qualitative methods for this study. Within qualitative research, there is a variety of data collection methods which will be presented in the following and evaluated with regard to the fit to the underlying study. The basic types of qualitative research encompasses ethnography, document analysis, focus groups and case studies (Saunders, Lewis and Thornhill, 2009).

For the underlying research, a case study method based on semi-structured interviews was chosen as a primary method of data collection (see Sections 4.7 and 4.8) as the interaction of characteristics of a PMS with the role of the MA is considered to be interactive and less observable. This choice results in the exclusion of certain research strategies, and the most important qualitative research strategies are now detailed. Ethnography emanates from the field of anthropology and aims at presenting and explaining the social world in the way the research subjects would describe it. As the researcher needs to immerse in the social world being researched, it is a very time consuming technique (Saunders, Lewis and Thornhill, 2009, p. 149). Most ethnographic studies include participant observation approaches which require an immersion of the researcher in a social setting for a certain period (Saunders, Lewis and Thornhill, 2009, p. 150). Observation is not considered suitable for the underlying research objective, as a very long research period is needed to draw conclusions about potential observations on the analysed interactions. Additionally, a particularly interesting case would be necessary and accessible, which is not the case. Another point is that a longitudinal approach is not necessary for answering the research objective, which makes the cost-benefit of this approach low for the underlying study.

Pure document analysis or archival research was not considered appropriate, as there are not sufficient documents available which could be a base to answer the research objective. The data to be analysed should be a product of day-to-day activities which make them a part of the studied reality. This research strategy constrains the research to an available set of data and the researcher needs to be very concise about the exact information available and about the fit to the research objective (Saunders, Lewis and Thornhill, 2009, p. 150). As the data available for the research objective of this study are not sufficient, a document analysis strategy is not considered appropriate.

Focus groups as a further qualitative research strategy grew out of therapeutic and marketing traditions (Morgan, 1997) and were first used by social scientists more than 50 years ago (Merton, Fiske and Kendall, 1956). They are used for an “in-depth exploration of a topic about which little is known” (Stewart and Shamdasani, 2015, p. 115). It is important to distinguish focus groups from group interviewing, where focus groups stress the discussion and interaction among participants (Parker and Tritter, 2006, p. 26). As the target group of the study is the managerial level from different organisations (see Section 4.7.3) it is logistically difficult to organise a common meeting among all the managers from different organisations. The organisation of face-to-face interviews was difficult for this study (see Section 4.7.3), and it would have been very difficult to organise a focus group setting. Even if an alternative setting could have been organised with another sample structure and more representatives of one company to facilitate logistical issues, a single researcher would have difficulties organising, moderating and analysing the interaction within a focus group – especially as some companies have very restrictive audio and video taping rules. Thus, the focus group method was considered less appropriate for a PhD, where a researcher is working alone. Additionally, the analysis of data collected in focus groups is complex, due to contextual and relational issues within the group (Parker and Tritter, 2006, p. 32) which is another reason for not considering the method appropriate for the underlying research.

As mentioned above, within a case study method, interviews are the chosen form of data collection and distinguish between three fundamental types of interviews: structured, semi-structured and unstructured (Gill *et al.*, 2008, p. 291). Structured or focused

interviews were developed by Merton in the 1940s. A uniform stimulus is followed by questions following an interview guideline. The results are aimed at generating hypotheses for later quantitative studies or for a deeper interpretation of findings (Flick, 2006, pp. 150–154). For the underlying study, the structured interview is not considered adequate as the very prestructured approach would not sufficiently meet the criteria of openness as structured questions steer potential answers. This approach would not be in line with the researcher's philosophy. Additionally, the use of a PMS in organisations differs – depending on the organisation – and a certain flexibility in the questions is necessary to probe relevant issues which might arise during the interview. The other extreme interview technique is the unstructured or narrative interview, according to Schuetze (1983). It emphasises openness and non-intervention and focuses on first-person narratives (Witzel and Reiter, 2012, p. 30). However, the underlying study needs a certain steering of the interviewee to tease out situations, where the characteristics of a PMS interact with the role of the MA. Thus, an open narration is not expected to lead to the necessary depth of data. Thus, the unstructured interview is not considered useful for this research. To conclude, a semi-structured interview (Witzel and Reiter, 2012, p. 33) is considered most appropriate, which will be explained in detail in Section 4.8.1.

Thus, in summary, qualitative methods allow a researcher to obtain a rich and detailed understanding of the subjective and contextual nature of organisations, processes and people (Bryman, 2016). Reflecting on the research objective as presented in Chapter 1 and Section 4.2, a qualitative research approach is more suited to obtaining the necessary detail and understanding of organisations that is required to interpret the interaction of a PMS with the role of the MA and the influential factors. Within qualitative research, the case study approach, based on semi-structured interviews, is considered to fit best to the underlying research objective (Section 4.2) and philosophy (Section 4.3). The research strategy is explained next.

4.6 Research strategy and purpose of the role episode model

This section outlines the compatibility of the role episode model (Section 3.2.5) with the choices for this study described in this chapter. The theoretical approach of the role episode model is supported by a constructive ontology and interpretive epistemology

(Sections 4.3 and 4.4). That is, interaction is a socially constructed phenomenon between role senders and receivers – namely for this study, MAs and OMs. Similarly, the context and personal or interpersonal factors in Katz and Kahn's (1978) role episode model are interpreted relative to actors. Thus, for this thesis, the researcher's interpretive paradigm (Sections 4.3 and 4.4) supports the qualitative methodology (Section 4.5) leaning on the role episode model investigating the how and why of the interaction of the PMS characteristics with the role of the MA (research objective – Section 4.2).

Role theory, or more precisely the role episode model, permits an empirical analysis of organisational and cognitive phenomena, of the interaction between organisational concepts and behavioural aspects of the MA. This is also in line with the constructive and interpretive approach of the research (Section 4.3). Role change can be caused by two parties: the role set (managers, customers, colleagues etc.) who acts on the identity of the MA or MAs themselves who change their role according to their proper perception of their identity. The role episode model provides a considerable explanatory power by taking external factors as well as human behaviour into consideration. This broad approach is also in line with a constructive ontology and an interpretive epistemology. From a global perspective, the application of the role episode model to management accounting has still a potential, as it is not yet frequently applied in qualitative management accounting research (see Section 3.2.7) and can also lead to new and innovative research approaches in combination with interdisciplinary research. An analysis of potentially alternative theories used in management accounting research (see Section 3.3) supports the choice.

The underlying research strategy is based on the above named role episode model (see Section 3.2.5) which is represented in Figure 4.1 below and described hereafter.

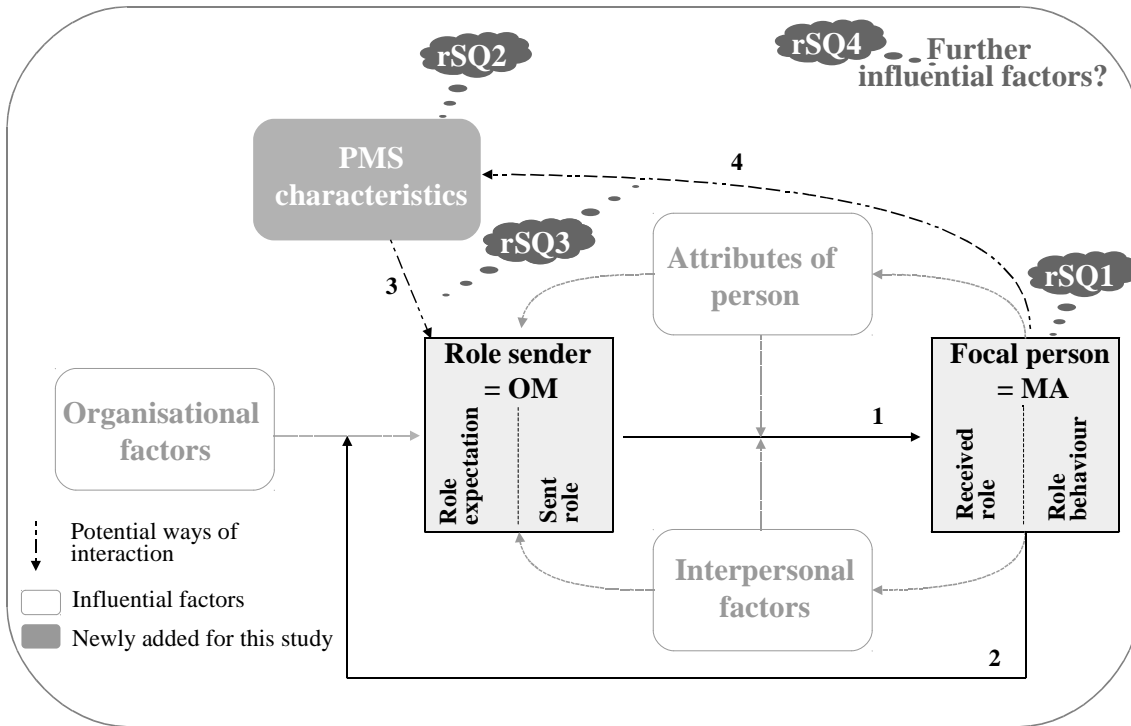


Figure 4.1: RSQs in relation to the role episode model

The dark grey rectangle labelled PMS characteristics and dotted arrows (arrows 3 and 4) are the complementary or new elements investigated in this research (interaction of the PMS characteristics). The core actors of the role episode model are represented by the light grey boxes with OMs and MAs linked by arrow 1. Role expectations are standards of the role sender (OM) applied to the behaviour of the focal person (MA). Based on these role expectations, sent roles consist of communications sent by members of the role set, here the OM (arrow 1). These expectations might also not be expressed explicitly. The concept of the received role comprises the MA's perception of the role-sending as well as the auto-expectation of the MA and further inputs. Role behaviour corresponds to the response of the MA. These concepts are influenced by motivations, cognitions and behaviour of the OM and of MA (Katz and Kahn, 1978, p. 195). The whole role episode process is cyclic, as it is followed by a feedback loop from the MA to the OM (arrow 2). Arrows 3 and 4 depict the potential impact of the PMS characteristics on the role of the MA and *vice versa*.

In order to be able to analyse the interactions according to the research objective, the rSQs operationalise the research as described in Section 4.2. These rSQs are combined with the role episode model to design the research strategy of this study. For the

contextual rSQ1, the roles of the MA are analysed first. The other contextual rSQ, rSQ2, then asks, what the key characteristics of a PMS are in order to find hints where to place the PMS characteristics in the role episode. Furthermore, the PMS characteristics are operationalised by rSQ2 to prepare for the answer of rSQ3. Potential role-taking (start at arrow 1) or role-making (start at arrow 2) mechanisms can potentially be relevant for rSQ1 but also for further rSQs (see Section 3.2.3). Arrows 3 and 4 then represent two potential interactions of the PMS characteristics with the role of the MA (targeting rSQ3) and constitute the core research objective. The influential factors (white rectangles with corresponding grey arrows, i.e. organisational factors, interpersonal factors and attributes of the person) are within rSQ4 and are intended to be expanded to further factors by this research. As the relationship between the characteristics of a PMS and the role of the MA are relatively unknown to date (see Section 1.2), the role episode model can help to examine and understand these interactions. The PMS characteristics might affect the role sender (arrow 3), organisational factors, directly the MA etc. On the other hand, the role of the MA might affect the PMS characteristics in a feedback loop (arrow 4). In this way, the role episode model serves as an overall research strategy to investigate the interaction between the PMS characteristics and the role of the MA. Based on this research strategy, the methods and actual approach are explained next.

4.7 Case study method

This section describes a case study approach and details some of the methodological issues associated with this approach. Yin (2009, p. 18) defines a case study as

[...] an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. [...] The case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis.

According to Yin (2009, p. 8), the choice for the method of study is based on the following three characteristics – the type of research question, the control the researcher

has over behavioural events and the focus on contemporary events as opposed to historical events.

Based on this structure, a case study method is identified as the most suitable method for this thesis. First, case study research is particularly useful in answering “how” and “why” questions (Yin, 2009, p. 9), which encompasses the overall research objective of the underlying study. Consequently, the nature of underlying evidence needed to answer the research objective determines the method (Creswell, 2007, p. 95). The “what” or contextual rSQs (rSQ1 and rSQ2) are of a descriptive nature and could be answered by a variety of methods. The two main “how” and “why” rSQs (rSQ3 and rSQ4) and the overall research objective of the interaction and the influential factors, however, clearly favour the use of a case study design.

Second, the research objective focuses on a contemporary set of events over which the researcher has little or no control (Yin, 2009, p. 13). This is another distinct advantage of the case study method. Case studies are considered appropriate, when the phenomenon being studied cannot be manipulated, as is so for the investigated interaction. The interaction between the characteristics of a PMS and the role of the MA are part of a complex real-life situation, where the researcher has no control over the events.

Third, qualitative research – and thus case studies – fit to the interpretive paradigm (see Section 4.4). In this regard, the work of different authors like Yin (2009), Scapens (2004) and Merriam (1998) is adopted to formulate an appropriate case study approach for this thesis. Yin (2009) gives an explicit explanation of the single steps and follows a rather rigid process regarding the quality criteria (see Section 4.9). Merriam (1998) follows a more constructive approach and is therefore referred to with regard to ontological and epistemological decisions. Scapens’ (2004) insights are important, referring to a management accounting context. As the researcher considers structured approaches important to ensure the quality of the research (Section 4.9), Yin (2009) is referred to frequently and other references as Scapens (2004) and Merriam (1998) are only chosen for the relevant differing decisions.

Fourth, role theory and more precisely the role episode model are in line with the research design and method (see Section 4.6). Theory is generally applied to explain and understand the specifics instead of producing generalisations. Theory is useful as it enables the researcher to provide convincing explanations of the observed phenomena. Explanatory case studies try to explain the reasons for observed accounting practices. If available theories do not provide sufficient explanations, it may be necessary to modify them or to develop new theories. The objective of research is to add to theory that provides good explanations of the case (Scapens, 2004). For the underlying study, the role episode model is drawn upon as a research strategy (Figure 4.1).

Additionally, a case study is chosen for its uniqueness regarding what it can reveal about a phenomenon. This knowledge may not be otherwise accessible, as no other method combines the same variety of analysis. Atypical cases might be important for understanding the variety of experience (Merriam, 1998, p. 33). To sum up, in the context of management accounting and management accounting change, the case study method is a commonly-adopted method in interpretive management accounting research (Otley and Berry, 1998; Scapens, 2004; Burns and Baldvinsdottir, 2005; Lambert and Sponem, 2012; Lantto, 2014). With regard to the research result, a case study is an “intensive, holistic description and analysis of a single entity, phenomenon or social unit” (Merriam, 1998, p. 34). These are the reasons why the case study is considered the most suitable method for the underlying thesis. To conclude on methods, the steps of the case study research process are summarised in Table 4.1. Although the table outlines a linear process, some of the steps have been undertaken simultaneously. The respective steps of the case study process will be described in the following sections as indicated in the table.

Step	Issue	Description	Section of thesis
Step 1	Identification of case companies	Identified companies used within the cases based on purposive sampling. Letters sent requesting participation in the research.	4.7.3
Step 2	First collection of secondary data	Familiarised with the companies and interviewees prior to interviews via CVs and company websites.	4.8.2 4.8.3
Step 3	Semi-structured interviews	Conducted 37-117 minute interviews with 32 participants between October 2016 and July 2017.	4.8.1 4.8.3
Step 4	Concept mapping within interviews	Gathered further secondary data within interviews through concept mapping and field notes. October 2016 to July 2017.	4.8.2 4.8.3
Step 5	Data analysis: coding	Data categorisation and structuring.	4.8.4
Step 6	Data analysis: within-case	Described each case and identified codes and themes. Data interpretation.	4.8.4 Ch. 5
Step 7	Data analysis: cross-case	Thematic analysis across the cases. Data interpretation and discussion.	4.8.4 Ch. 6
Step 8	Synthesis	Re-examined transcripts. Interpretation of findings.	4.8.4 Chs. 5 & 6

Table 4.1: Table of process steps of case study research (based on Yin, 2009)

4.7.1 Multiple case study – comparative case study

This study adopts a multiple case study method. Multiple-cases are considered more robust in terms of findings as the empirical indications are more convincing (Yin, 2009, p. 53). Instead of sampling, replication is generally used for multiple-case studies which is analogous to multiple experiments. Each case is selected in order to predict a similar result (literal replication) or to predict contrasting results but for foreseeable reasons (theoretical replication). This means that in multiple case studies, there is usually a smaller number of cases representing literal replication and another amount of cases representing theoretical replication. An important part of this replication procedure is the development of a rich theoretical framework. This framework becomes the base for extending the findings to other cases and thus generating a rich framework (Yin, 2009, p. 54). According to Scapens (2004), the selection of cases to be studied should follow a clear specification of the research questions and the theoretical framework for the research. Dissimilar cases can be chosen to analyse implications from their comparison and/or to extend the theory to a broader set of circumstances. The direction in which theoretical extension is desired will determine the differences between the individual cases. The objective of multiple cases is to develop a rich theoretical framework, capable of explaining a range of circumstances.

For the underlying research objective, both approaches are taken into consideration. It should be stressed that the “how” and “why” of the interactions of the characteristics of a PMS and the role of the MA are investigated in this study. Basing the study on a purely management accounting view and doing a single case study would likely yield limited results, as such an interaction is not a one-way relationship. Thus, a second perspective is deemed necessary in order to cover the external view of the MA and of the PMS. In this context, the extant literature identifies some relevant factors impacting on the role of the MA as management expectations (Hopper, 1980; Sathe, 1983) and interdisciplinary interactions (Mouritsen, 1996; Johnston, Brignall and Fitzgerald, 2002). Thus, understanding the roles of MAs necessitates procuring the perceptions of experienced MAs and those whom MAs support, that is, functional decision makers – who are here labelled OMs. By ways of example, this can mean an operation manager as OM and a management accounting manager – responsible for the respective shop-floor area – as MA. It can also mean a general manager of a BU together with the responsible MA (see Table 4.2). A managerial level is selected specifically as the role of the MA would typically relate to this level (Byrne and Pierce, 2007, p. 475). Following this argumentation from the literature, and the role episode model that defines a role sender and receiver, the counter-part of the MA to be investigated for this relationship is most suitably represented by the functional decision-maker or OM. For the underlying study, this OM is defined as a manager with responsibility for a defined function linked to the product like manufacturing, sales, engineering, purchasing etc. This OM is the counter-part of the MA and is able – it is argued – to “represent” the counter-part of the MA and the characteristics of the PMS. Additionally, an OM is also used for comparative means in other case studies (Byrne and Pierce, 2007; Lambert and Sponem, 2012). Thus, a comparative case study strategy is deemed most appropriate for this thesis as it seeks to understand a phenomenon from different angles, as defined by the research objective and the underlying theory (here role episode model see Section 3.2.5) translated into the cases. To conclude, a comparative case study based on two cases – i.e. two occupational groups of the MA and the OM – is deemed appropriate for the research objective at hand. The unit of analysis is now described in more detail.

4.7.2 Choice of the unit of analysis

The identification of the unit of analysis or the “case” is relevant as it affects how findings relate to theory. According to Patton (2002, p. 229),

[...] the key issue in selecting and making decisions about the appropriate unit of analysis is to decide what it is you want to be able to say [...] at the end of the study.

The unit of analysis corresponds to the hierarchy of aggregation and can be people-focused such as individuals or groups, or structure-focused such as projects or organisations (Patton, 2002, p. 231).

In this study, the unit of analysis, and thus the case, is defined as two occupational groups/functions, namely MAs and OMs. Similar to Anthony (1988) and Lambert and Sponem (2012), the MA’s function or set of MAs is chosen rather than the individual level. This is in line with role theory where a role set is analysed (Katz and Kahn, 1978, p. 189). For these occupational groups, the criterion for inclusion and exclusion needs to be fixed. As the researcher follows a constructive ontology, the occupational group is not researched by a representative survey, but by a purposive sample of the respective occupational group (see Section 4.7.3). The unit of data collection remains the individual who is chosen by purposive sampling to be part of the group. According to Yin (2009, p. 88), it is common to have the data collection at the individual source (e.g. interviews with individuals), whereas the unit of analysis is collective (e.g. the organisation to which the individual belongs). This point needs to be taken into consideration for the case study protocol (see Chapters 5 and 6). According to Yin (2009, p. 46), Figure 4.2 represents the overall structure of the underlying comparative case study, with the unit of analysis being the occupational groups of MAs and OMs and the unit of data collection being the individual.

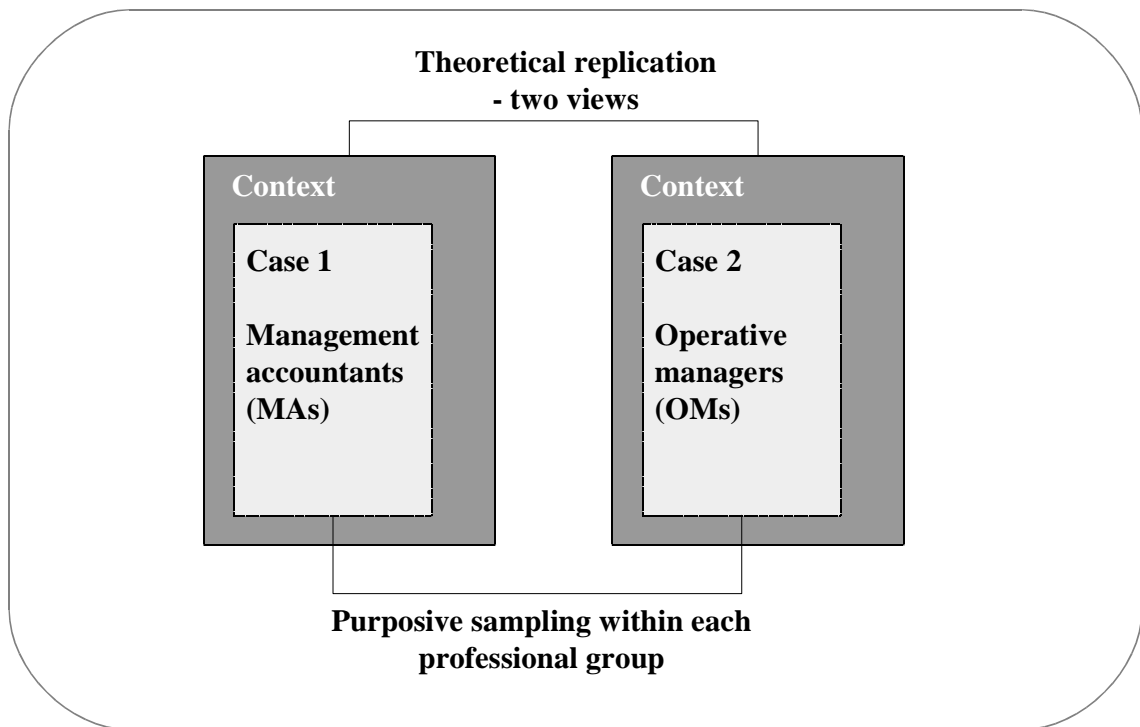


Figure 4.2: The units of analysis based on Yin (2009, p. 46)

4.7.3 Case selection

This section details the selection of the cases and the composition and size of the sample. As mentioned above, multiple case study research tends to adopt replication rather than sampling. Replication is a term borrowed from experimental research and is used to either predict similar results or contrast results for predictable reasons (Yin, 2009, p. 54). Based on the dual structure, theoretical replication is used in terms of looking at both views of the two occupational groups. However, within the occupational groups or from an organisational perspective, a more classical sampling strategy is applied in order to find a sample of individuals representing the occupational group.

Most sampling in qualitative research is based on purposive sampling. This means that the sampling within the organisational groups is done with reference to the research objectives to ensure the rSQs are answered. Purposive sampling is a non-probability form of sampling and does not allow generalisation. Purposive sampling is not to be mixed up with convenience sampling, which is available by chance to the researcher. For purposive sampling, the researcher samples with the respective research objective and the relevant criterion in mind (Bryman, 2016, p. 420).

The sample size within the occupational group usually depends on the stage of data saturation, i.e. until the additional data collected provide few, if any, new insights (Saunders, Lewis and Thornhill, 2009, p. 235). Guest, Bunce and Johnson (2006, p. 76) propose that 12 in-depth interviews should suffice for research, where the target is to explain a shared perception or belief within a homogeneous group. If the researcher wants to determine how two or more groups differ along one dimension, 12 participants per group of interest need to be selected. A study by Byrne and Pierce (2007), which is also an interdisciplinary study with MAs and OM, uses 18 interviews per group. Thus, a sample of 12-20 per occupational group was initially targeted. For this study, the researcher derived a group of 16 organisations from different sectors of activity (see Table 4.2) and 32 interview partners. When realising after approximately eight interviews within the manufacturing sector that themes started to be repeated, the focus was set on further sectors of activity in the second recruitment wave of participants.

No	Sector of activity	Function of MA	Function of OM
1	Transport services	MA BU	BU general manager
2	Automotive	MA sales	Sales manager
3	Automotive	MA division	Divisional general manager
4	Automotive, industrial technology	MA BU	BU manager operations
5	Tooling	MA operations	Operations manager
6	Automotive	MA sales	Sales manager
7	Automotive	MA division	Divisional marketing manager
8	Sensor technologies	MA division	Divisional general manager
9	Tooling	MA sales subsidiaries	Sales manager
10	Retail	Chief financial officer (CFO) subsidiary	Chief commercial officer (CCO) subsidiary
11	Marketing services	MA corporate	Sales manager
12	Automotive	MA operations	Operations manager
13	Fast moving consumer goods (FMCG)	CFO subsidiary	Sales manager subsidiary
14	Aviation	MA operations	Operations manager
15	Maintenance services	MA division	Divisional sales manager
16	Chemical	MA sales	Sales manager

Table 4.2: Table of participants of the study with sectors of activity and functions

In addition, the number of interviews can be restricted based on economic reasons and on reasons of focusing properly (Witzel and Reiter, 2012, p. 62). Last but not least, the final composition of the sample is limited by the willingness of the potential

interviewees to participate. While first contact to prospective companies was not anonymous, and generally through a personal contact (former work or university alumni contact), only 16 out of 90 contacted organisations were willing to participate in interviews. This is mainly due to the dual character of the study. Four additional interviews were undertaken without finding a second appropriate interview partner. The interviewees without matching partner were solely analysed after the main analysis and are not included into the main findings (Chapter 5 and 6). Also based on these outliers, no new relevant data seem to be showing up regarding a category (Strauss and Corbin, 2008, p. 212). Thus, data saturation was reached for the underlying study.

The general case selection criteria for this partly inductive study are based on theoretical aspects as recommended by Ryan, Scapens and Theobald (2002). Further case selection criteria are briefed by the research objective, as follows:

- A pair of one MA and one OM of the same company to investigate cross-sectional views within each organisation. Based on the role episode model, it is particularly important to obtain the expectations and perceptions of those whom MAs support who are functional decision-makers or OM. On the other hand, it is important to examine the MAs themselves. MAs and OM are from the same organisation and work closely together, giving an ability to analyse the different views accordingly and to render the contextual impact similarly. When organising the interviews, either the MA or OM is addressed first and asked to provide a counterpart of collaboration who is willing to participate. This recruiting model worked well for all of the interviews.
- Company size: large companies were sought³. The interview questions were discussed with an MA of a small company of approximately 20 employees. This discussion and research by Mitchell and Reid (2000, p. 386) on accounting in small businesses supported the author's suspicion that companies need to be of sufficient size to have separate management accounting and other organisational functions. Consequently, the question of interaction only arises in companies with a high division of labour. The equivalent criterion is also used by Byrne and

³ The definition of large companies is based on the EU definition in the Official Journal of the European Union, Annex, Art. 2 (European Union, 2003, p. L124/39). It categorises companies with more than 250 employees and an annual turnover of more than €50m (or balance sheet sum of more than €43m) as large companies.

Pierce (2007) who argue that a company should have “sufficient scale” in order to have separate functions. A further argument in favour of large companies is that – according to role theory – role consensus is more probable within smaller entities, organisations or groups (Wiswede, 1977, p. 54). It is considered that the interaction is worthy of investigation, in the case of role conflict. This is why large companies are selected. Among the sample of 16 interviewed companies, there are three “smaller” companies with an annual turnover of between €400m and €700m and 900 to 5,000 employees. The other 13 companies show an annual turnover of more than €1.3 billion up to €70billion and have between 3,000 and 300,000 employees (figures in 2015⁴).

- Seniority with an average of 15 years of professional experience and not less than 10 years. Less experience was considered less useful as two further pilot interviews with less senior MAs revealed some deficiencies (see Section 4.8.3). First, the stated activities of the MA were mainly based on current literature and university teaching instead of living examples which is not the objective of the interview and the case study. Thus, the business support role was stated by these less senior MAs without being able to give examples from their daily business support activities. Second, it was noticed that there were mainly literature-based examples with PMSs or that the examples given were always identical or not as complete and rich as the examples from more senior employees. A reason for this missing experience might be that one needs to reach a certain managerial level in a company in order to think about conceptual topics like the design of a PMS. In this study, managers are considered to be those who have managerial responsibilities, which means managers are or have been in charge of personnel. The managerial responsibility is important, as managers are more frequently obliged to do conceptual work and to question different processes. Furthermore, it is important to address managers for the operative view as MAs typically relate to manager levels (Byrne and Pierce, 2007, p. 475). An average of 15 years experience is considered suitable when comparing the average age of a freshly qualified German university graduate aged 26-27 (Buschle and Haehnel, 2016, p. 20) with the average age of a manager in Germany in their early 40s (Deutsches Institut für Wirtschaftsforschung, 2017, p. 43), also leads to an

⁴ Figures in 2017/2018 are similar, mainly slightly increasing across all the companies.

average professional experience for the manager of 15 years. To target a longer period of experience would mean to diminish the potential number of participants which is already limited due to the comparative study design.

- Sectors of activity: broad activities across different industrial and service sectors are analysed. The best case access was to the manufacturing and automotive sector, and this is where the study started. After having done interviews with the first eight companies in the manufacturing sector, the author realised that the first themes were being repeated and decided to enlarge the sample to different sectors of activity (fast moving consumer goods (FMCG), chemicals, professional services, retail) which enriched the overall data analysis. In Germany, the manufacturing and building industry, the retail, transport and hotel industry and the service sector⁵ are considered particularly strong with respectively 26%, 16% and 15% of gross value added in 2017 (*Deutschland in Zahlen – Volkswirtschaft*, 2017).
- European organisations in Germany: On the one hand, the focus is on companies in Germany for accessibility reasons. In addition, Germany carries a high economic power, with the highest GDP in the European Union (Eurostat, 2017). This suggests a certain success or reason for a particular interest. On the other hand, a very culturally diverse sample might distort the results without having an easily analysable cultural framework at hand. Hofstede's (1980) and Schein's (1985) concepts of culture have been used in management accounting and management control research, see for example Harrison and McKinnon (1999) or Järvenpää (2007). But, nevertheless, cross-cultural research in this area is still in its infancy (Harrison and McKinnon, 1999, p. 502). Taking this into account, the decision was taken to use European organisations based in Germany. The European factor was considered interesting in terms of potential findings which are typical for German organisations or European subsidiaries in Germany. Byrne and Pierce (2007) based their study on multinational companies in Ireland and they considered it beneficial, for further understanding, to investigate these settings further.

⁵ The classification of sectors is according to the standard split of German industry sectors (*Deutschland in Zahlen – Volkswirtschaft*, 2017).

4.8 Actual methods employed

This section describes the actual methods employed including the detailed conception of the interview guideline (see Appendix D) for semi-structured interviews and the triangulation approach within the case study supported by concept mapping (see Appendix E for an example) and document analysis.

4.8.1 Semi-structured interviews

This section outlines the creation of an interview guideline for the semi-structured interviews of this study and the choice of the interview type. The two main basic types are the unstructured interview and the semi-structured interview (Bryman, 2016, p. 469). While unstructured interviews have the character of a conversation with only a brief set of predefined topics, semi-structured interviews are based on a list of fairly specific topics to be covered, which is frequently called an interview guide. Questions may not exactly follow the order of the interview guideline and additional questions may be added during the interview. In this study, there is a clear focus on the research objective and the rSQs from the outset (see Section 4.2). Thus, semi-structured interviews are considered advantageous in order to address specific issues around the rSQs (Bryman, 2016, pp. 471–472).

Particularly for semi-structured interviews and in-depth interviews it is relevant to carefully consider the approach of asking questions. Allowing an interviewee to talk freely is unlikely to lead to a focused discussion on the research topic (Robson, 2002). The use of this approach is demanding and formulating the appropriate questions is most relevant for the success of this approach. Generally, there is a distinction between open questions, probing questions and specific and closed questions. Open questions allow interviewees to describe and define a situation or example. It encourages the participant to reply as they wish and it can be used to reveal facts or attitudes (Saunders, Lewis and Thornhill, 2009, p. 337). The character of this study (see Sections 4.3 to 4.5) recommends open questions. They are especially used as narration-generating questions at the beginning of each of the five blocks of the interview guideline. These questions are mainly used as an icebreaker. The interviewee is able to get used to the interview

situation and to think about the global idea before restricting the focus to certain aspects (Witzel and Reiter, 2012, p. 53). The answers of the interviewee to the open questions do not need to be classified directly into a scheme, but will be recorded with all mentioned details (Bortz and Doering, 2006, p. 308). Probing questions are aimed at exploring significant responses. They can be worded like open questions but may require a certain focus. They also serve to reveal the reasoning behind a narration. The intention is to encourage exploration without offering a judgement by the interviewer (Saunders, Lewis and Thornhill, 2009, pp. 338–339). These revelatory questions are used as second main type of questioning for this study in order to reveal certain details which would not be addressed otherwise. Specific and closed questions are similar to questions used in structured interviews. They are mostly used to obtain a specific fact or opinion. This type of question is only used once in the interview guideline (apart from the demographical questionnaire at the end). It serves to find out the exact PMS used in the company. To conclude, using proposing types of questions is avoided, in order to prevent any errors which may result from their use (Saunders, Lewis and Thornhill, 2009, p. 339).

For a study based on semi-structured interviews, a four step approach is the most common: preparing an interview guideline, leading the interviews including the recording, transcribing the interviews and analysing the interviews. The drafting of the interview guideline is introduced in this section while leading the interview, the recording, transcription and analysis are detailed in Sections 4.8.3 and 4.8.4. To prepare the interview guideline, it is recommended that the researcher focuses on the puzzling element of the research and that one thinks about the obligatory elements in order to answer the research objective or rSQs. It is recommended to put the questions in a certain order (from general to specific), to formulate questions in a way that they will potentially answer the rSQs, to use a comprehensible language, not to ask leading questions and to find out contextual information about the interviewee for analysis and interpretation (Bryman, 2016, p. 473).

The interview guideline ensures that the focus of the interview is maintained and that the interviewee can disclose their experience (Witzel and Reiter, 2012, p. 52). On the other hand, the guideline gives the flexibility to introduce new topics and questions if

necessary. The semi-structured interview relates to the openness of qualitative research (Helfferich, 2009, p. 107). In order to obtain a “natural” flow of information, the interviewer needs some training and a proper documentation through recording, memos or note-taking (Witzel and Reiter, 2012, pp. 182–183). The semi-structured interview is highly demanding for the interviewer as a decrease of standardisation leads to a permanent process of operationalisation (Witzel and Reiter, 2012, p. 53). Therefore, a constant translation of research questions into related interview questions takes place which leads to a higher openness and a deeper analysis of the situation (Witzel and Reiter, 2012, p. 80). This interaction and clarification option is also a main reason why oral interviews are preferred to written interviews (Saunders, Lewis and Thornhill, 2009, pp. 348–351) for this study. A semi-structured interview contains key questions which are asked to all the interviewees and optional questions which are not relevant for all the interviewees (Saunders, Lewis and Thornhill, 2009, p. 320). Another positive aspect of semi-structured interviews is the structuring, which leads to a better comparability among the interviewees by ensuring that the relevant topics are addressed (Witzel and Reiter, 2012, p. 51).

To compare the interview context, interviews were conducted personally by the author and were mostly held in the rooms of the interviewee which corresponds to the investigated professional context (Witzel and Reiter, 2012, p. 64) and which is indispensable for case study research. Interviews via Skype were conducted in four exceptional cases with e.g. alumni interviewees. For comparison reasons, all interviewees received the same standardised invitation letter with focal discussion points for their individual preparation and were only confronted with the real interview questions during the interview situation.

To design the interview guideline, Helfferich (2009) recommends a four step approach: to collect potential interview questions, to check questions, to sort questions and to subsume questions. In step one, all questions which might be relevant with regard to the research objective were written down. A maximum number of questions was gathered in a first step neglecting the formulation and relevance. All questions fitting to the research focus were gathered and this resulted in approximately 30 questions. In step two, the list of generated questions was checked with regard to prior knowledge and openness. The

list of 30 questions was reduced to 12 main questions and structured. All the questions were checked, filtered and eliminated based on a set of criteria. First, facts were switched to the demographic part. Second, questions potentially asking explicitly for prior knowledge were eliminated. Third, openness of the questions was verified or questions were re-formulated. Fourth, the abstraction level was checked as the topics were supposed to be operationalised properly. Fifth, one analysis question was generated and explicitly integrated in the interview guideline (“why”-question number 9 of interview guideline; see Appendix D), as it can supposedly be answered by at least some of the interviewees (Helfferrich, 2009, pp. 182–187).

Step three sorted the remaining questions. As a historical sorting was not considered useful, a thematic sorting was done and the questions themselves were structured into five blocks: one warm-up block, questions around the function of the MA, questions around PMSs, questions around the impact of characteristics of a PMS on the role of a MA and a closing block. Finally, the 12 questions were subsumed in those five blocks by choosing a narration generating introductory question at the beginning of each block. Thus, questions were sorted from general questions to more specific questions within each block (Helfferrich, 2009, p. 185). Figure 4.3 summarises this structure.

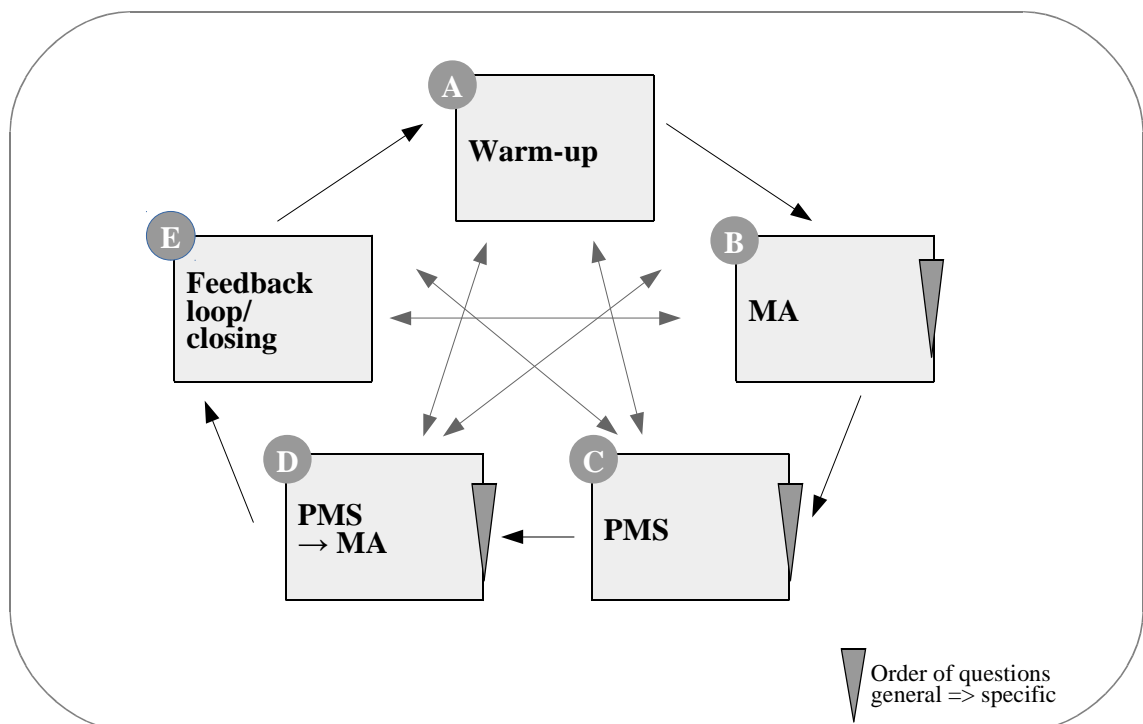


Figure 4.3: Meta structure of interview guideline

The general order of the interview guideline is reflected by the outer arrows starting with the warm-up, going to the MA, the PMS and their interaction. The closing question gives the interviewee the opportunity to comment on further ideas regarding the topic which had not been previously discussed. However, this is only the basic structure as the interviewer can jump according to the narration of the interviewee. This is reflected by the arrows in the middle. This interview guideline was designed for both of the occupational groups investigated – MAs and OMs. Depending on the examples given by the interviewee, the questions were slightly modified e.g. naming explicitly the PMS mentioned by the interviewee instead of using the general term PMS etc. This process ensures, on the one hand, a comparability among the interviews and a proper operationalisation of the rSQs, on the other hand. Thus, there is a direct link between the rSQs guiding the research and the detailed interview guideline.

After having drafted a first interview guideline according to the steps mentioned above and with the described blocks, the preliminary guideline was discussed with two peers and led to an amended guideline. This second guideline was tested with two colleagues – one management accounting manager and one OM. When leading the pilot interview, the researcher noticed that the question style of the guideline was still rather impersonal and that it would be rather challenging to get access to the interviewees with this type of question. Therefore, it was again reworked. Based on this input, a third interview guideline was drafted. This guideline was tested in four further pilot interviews which were transcribed and analysed with QSR NVivo 11. Two of the four pilot interviews were also used for a verification of the sampling strategy and case selection in terms of job experience (Section 4.7.3). Slight modifications were done to derive the final interview guideline which is the base for the main study (Appendix D). An overview of this drafting process is presented in Figure 4.4.

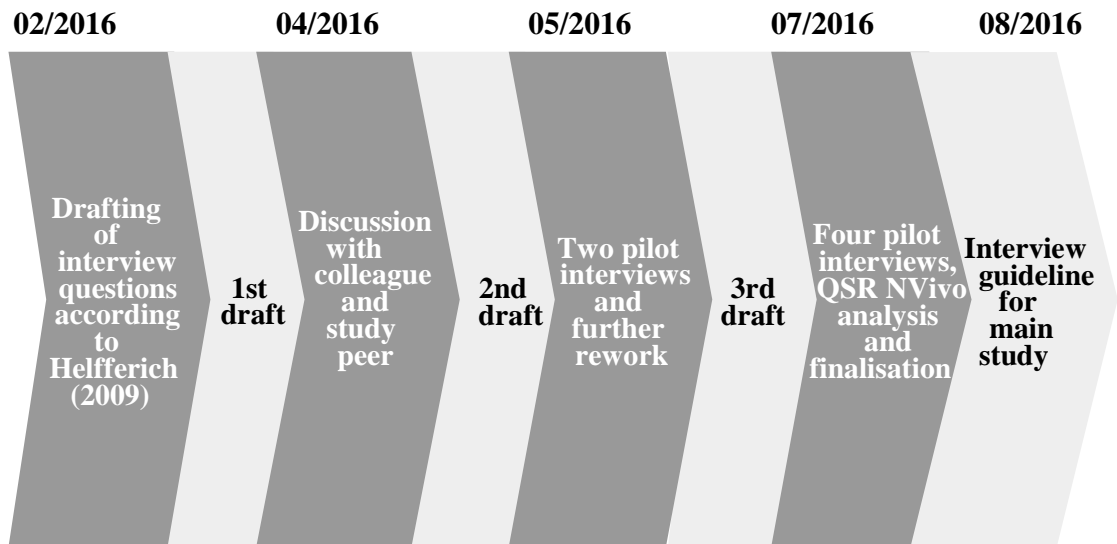


Figure 4.4: Process of drafting the interview guideline

4.8.2 Secondary data sources

Parallel to the completion of the interviews and following a constructive perspective (Section 4.3), the content was complemented by triangulation to ensure that the conclusions show a comprehensive view of the investigated interaction. Triangulation means that more than one method is used in the study of social phenomena or that several data sources are used. Further triangulation options are investigator triangulation among different researchers and theory triangulation by using different perspectives for the same data set (Patton, 2002, p. 247). Triangulation can operate within and across research strategies and results in a greater confidence of findings (Bryman, 2016, p. 386). In the underlying case, triangulation concerns methodological triangulation within the qualitative research approach (interviews, concept maps) and data triangulation supported by different data sources (documents, transcripts, CVs). The following secondary data sources were collected and analysed as presented in Table 4.3 each of which is now described:

Type of secondary source	Number of sources: MAs	Number of sources: OMs
- Concept maps	16	16
- Demographic questionnaires	16	16
- Field notes	16	16
- Company reports	16	16
- Curriculum Vitae	9	8
- Public corporate webpages	16	16

Table 4.3: Table of secondary sources

Concept maps were considered an appropriate tool for triangulation (Helfferrich, 2009, p. 36). The studied paths of interaction are considered to be sufficiently simple in order to be visualised with the help of a concept map. Usually a concept map is done after a first analysis of the interview contents by the interviewer and validated in a second meeting with the interviewee (Groeben, 2002, p. 58; Helfferrich, 2009, p. 36). As such a second meeting was not likely to be possible, a combined interview and concept map approach was considered appropriate. Thus, the author developed a concept map visualisation format for the end of the interview to sum up and visualise the discussions. This was used at the end of each interview to ask interviewees to visualise the interactions between the OM, the MA and the characteristics of a PMS with arrows on a sheet of paper (see Appendix E).

A final part of the interview constitutes a demographic questionnaire which clarifies the open contextual issues of the interviewee. Additionally, document analysis such as the analysis of the field notes taken immediately after the interviews and the analysis of the CVs of the interviewees complete the data triangulation approach. The activities of the companies were analysed based on the webpages and based on publicly available company reports such as financial statements.

4.8.3 Data collection

This section presents the process of data collection for the study. Qualitative researchers are frequently interested in the way people say something and thus interviews are usually audio-recorded and transcribed. This is advantageous for the interviewer, as the person does not need to concentrate on taking notes parallel to asking questions (Bryman, 2016, p. 482). The recording device should be placed with discretion in order

to maintain a natural interview situation (Witzel and Reiter, 2012, p. 64). Transcribing has several advantages. It allows a thorough analysis of what interviewees say and it permits repeated analysis. It opens the data for other researchers who can evaluate the analysis. It permits a certain neutrality and it helps to support the interviewer's memory. It also allows the data to be reused for further analysis (Bryman, 2016, p. 482).

The pilot interview phase took place between May and August 2016. Overall, the researcher conducted six pilot interviews with two interviews mainly focussing on the sampling strategy (Figure 4.4). Two of the pilot interviews were transcribed and analysed with the support of QSR NVivo 11. For accessibility reasons, the pilot interviews were within one company. As described in Section 4.7.3 and 4.8.1, the pilot interviews modified the choice of the interviewees and the structure of the interview guideline. Additionally, the pilot interviews influenced the interview skills of the researcher and the strategy for data analysis. The pilot study was in line with the tension between OMs and MAs having differing and sometimes conflicting views about PMSs and consequently differing and sometimes conflicting expectations about the activities of MAs. These conflicting views support the research design of a comparative case study based on the occupational groups of the MAs' case and the OMs' case.

The main round of semi-structured interviews for this study were conducted between October 2016 and July 2017. The European School of Business (ESB) Reutlingen alumni network was used, as well as personal contacts and the business networks xing and LinkedIn. Thus, as mentioned, 32 interviews were conducted overall, thereof 16 with MAs and 16 with OMs of the respective companies. The length of the interviews ranged from 37 to 117 minutes, the average length being 64 minutes. Potential interviewees were addressed by email in the first instance, with a personal message and a standardised invitation letter. The invitation letter gave an overview of the contents of the interview and permitted a certain preparation of the interviewee. When writing the invitation letter, the author paid attention, that it contained an appropriate overview but did not anticipate all the information and questions of the interview.

The interviews were on-site, with the exception of four interviews held by telephone or skype. All interviews except one were audio-taped and transcribed. For this interviewee

notes were taken and summarised directly after the interview. Personal interviews were audio-taped by a voice recorder, Skype interviews were audio-taped with a recording software. The interviews were transcribed and analysed with the help of QSR NVivo 11 software. Short interview memos and field notes additionally described the setting of the interview and further observations of the researcher. QSR NVivo 11 combines all the data sources and enables the researcher to work with huge amounts of data while staying focused and structured. The data analysis with QSR NVivo 11 and Excel is described in the next section.

4.8.4 Data analysis

This section outlines the data analysis process of the study which consists of data coding, within-case analysis and cross-case analysis. The data analysis is also called the identification and explanation of patterns by Scapens (2004, p. 270), and is split into several steps. First, a general sense of the gathered information is generated by reading through the material. Afterwards themes are identified and the coding process takes place. At the end, the analysis of the interviews includes within-case analysis and cross-case analysis. The findings of within-case analysis are presented in Chapter 5 and the findings of cross-case analysis are further discussed in Chapter 6. The process finishes with the interpretation of the investigated interactions and writing up of a summary (Creswell, 2014, pp. 194–201).

The first step of data analysis consists of data coding of interview transcripts and secondary data. To provide structure to the analysis process, this thesis follows the process recommended by Creswell (2014, p. 197). While Figure 4.5 suggests a linear approach, the analysis process and stages are more iterative than linear.

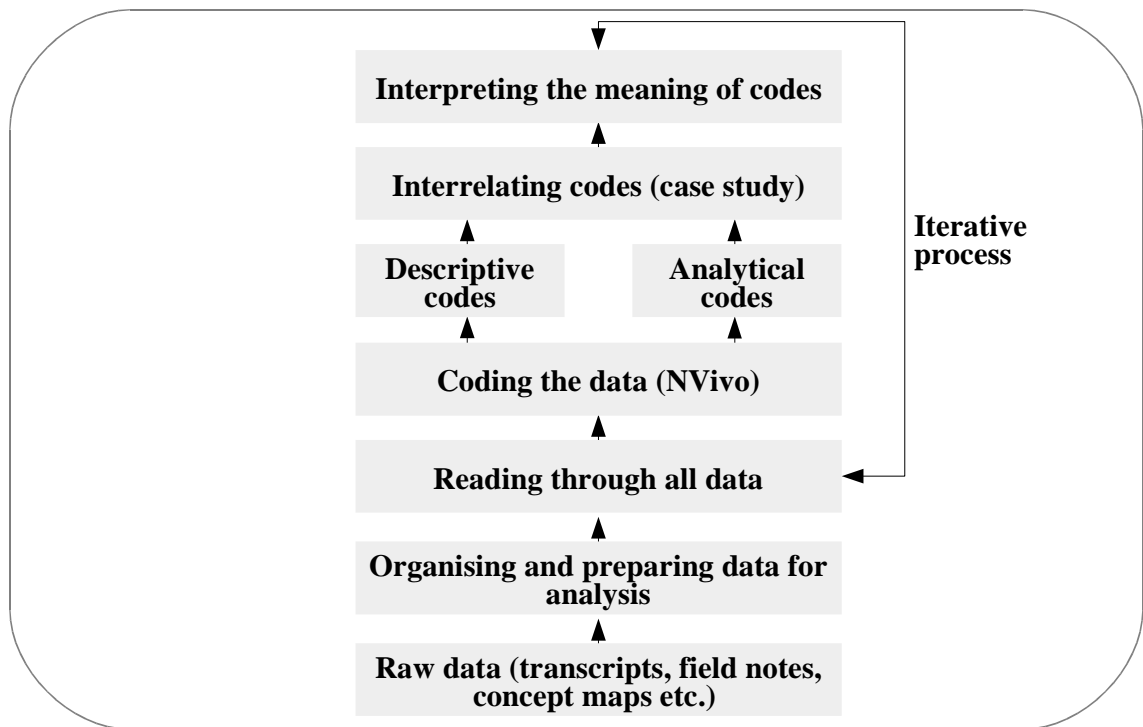


Figure 4.5: Analysis process adapted from Creswell (2014, p. 197)

The data generated from the semi-structured interviews were analysed with the help of coding and template analysis from the work of King (2012). The latter was considered particularly useful for this study, as it allows the comparison of groups within the data set, allows the researcher to stay focused on the research question or particular focus of analysis and is considered to be useful for projects with a sample of ten to twenty-five hours of recording (King and Horrocks, 2010, p. 168). All three apply to this research study, except the interview hours are slightly longer but still manageable. In addition, it allows the combination of an interpretive approach with a focused analysis which is in line with the philosophical stance of this study. Thus, template analysis results in defining a priori themes or codes from the extant literature and a revolving deductive inductive process (King and Horrocks, 2010, p. 168). These themes are based on the rSQs and the underlying theoretical framework of the role episode model. For this thesis, the initial template was generated by first analysing a set of data of ten semi-structured interviews, corresponding to five pairs of MAs and OMs. The group of MAs was coded first, then the group of OMs in a second step. The initial template helped to guide the analysis by providing a trade-off between the details and the overview of the data. The author chose very different companies and interviews for the initial template for maximum diversity. Coding qualitative data, comprises data segmentation into units

and a rearrangement in order to facilitate analysis, comparison and the development of theory (Strauss and Corbin, 2008, p. 71). According to Mason (2002), the codes are based on a combination of the data generated, theory (the role episode model for this thesis) and extant literature. Thus, codes are generated based on a mixed inductive and deductive approach. This involved different steps of literal, interpretive and reflexive reading of the data (Mason, 2002, p. 170). Then, according to Richards (2009, p. 88), descriptive and analytical codes emerge from the data. The coding is not separated though between descriptive and analytical codes, because template analysis assumes that the two cannot be entirely separated (King and Horrocks, 2010, p. 168). This initial template with the coding scheme was applied to a further ten semi-structured interviews and slightly adapted. Again, five pairs of MAs and OMAs were coded starting with the MAs. The third wave of coding consisted of twelve semi-structured interviews and involved the analogous steps. The process involved the same reading and coding techniques as described above and led to the final template. During this step, the qualitative software package QSR NVivo 11 assisted with the organisation of the data and the codes. The software enabled a systematic analysis of the data generated along the structure of the interview guideline as described in Section 4.8.1. The five blocks of the guideline (Figure 4.3) serve as a guiding mechanism for the coding process. The main codes for rSQ1 are located in block B, the main codes for rSQ2 in block C and the answers for the main rSQ3 and 4 are mainly located in blocks D, E and the triangulation block. This prestructure facilitates the coding process, while maintaining the necessary openness to also find relevant information in all the other blocks.

It is important to note that the researcher limited the overall coding template to approximately 20 codes in a first step, not to get lost in the structure and to ensure a homogeneity of the code attribution. Following the within-case analysis, described at the end of this section, one template was developed per occupational group, i.e. per case. Only for cross-case analysis, the templates were merged and a common template was developed. The concept maps established by the interviewees at the end of the interview were used as a triangulation of methods and as a completion or extension of their reality. This analysis encouraged the researcher to approach the rSQs from different angles and to investigate the puzzle in a multi-faceted way. It enhanced validity as social phenomena are more than one-dimensional (Mason, 2002, p. 190). In

addition, the visual support of the concept maps helped to better understand the complexity of rSQs 3 and 4. All the coding was done based on the German language transcripts and summarised at the end in English. The interview quotes which will be presented in Chapter 5 and 6 were translated from German into English for the quoted parts.

The within-case analysis is organised and presented in four main steps. First, is the analysis of case profiles by dissecting the units of analysis. For this step, the case profiles and overall sample are described in detail (as additional information to Section 4.7.2 and 4.7.3). The companies and units of analysis within each occupational group are detailed to provide an overview of the industry sectors and individuals within each case (Section 5.1). Second, is analysis of the context, i.e. the perception of the role of the MA and the key characteristics of a PMS (rSQ1 and rSQ2). For this step, rSQ1 and rSQ2 are analysed based on the coding template. Step two is the preparative step for steps three and four. The empirical findings are framed around the dichotomy of roles of the MA (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013) and Ferreira and Otley's (2009) definition of a PMS – as previously derived from the literature review (see Chapter 2). Empirical findings for each case regarding rSQ1 and rSQ2 are summarised in Sections 5.2.2, 5.3.2 and 5.2.3, 5.3.3. Third, is analysis of how the interaction of the characteristics of a PMS and the role of the MA runs (rSQ3). This step concerns rSQ1 and analyses the interaction of the characteristics of a PMS with the role of the MA. The three characteristics of a PMS have been analysed with respect to the role of the MA and based on Katz and Kahn's (1978) role episode model. The potential paths of interaction as well as the most salient feedback loops of how the roles of the MA influence back on the characteristics of a PMS are identified. Empirical findings in relation to rSQ3 are summarised in Sections 5.2.4 and 5.3.4. Fourth, is analysis of the influential factors (rSQ4). This step concerns rSQ4 and analyses the influential factors for the interaction. Causes or influential factors for this interaction are identified, analysed and discussed. The most salient findings in relation to rSQ4 for each case are summarised in Sections 5.2.5 and 5.3.5. After the within-case analysis, cross-case analysis was performed, which is described next.

According to Eisenhardt (1989b, p. 540), it is preferable to look at data in diverging ways through different lenses. The general idea of cross-case analysis is to go deeper into the data by looking at the data through different lenses in a structured way. It is also a way to ensure that potentially novel findings are discovered in the data (Eisenhardt, 1989b, p. 541). An additional view is the comparison of the MA and OM from the same organisation or a cross-organisational view, which again helps to reveal novel findings and adds an additional perspective to the analysis of the data. Comparative research is generally interested in identifying the similarities and differences among macro-social units (in the underlying case occupational groups), which allows for “understanding, explaining and interpreting historical outcomes and processes and their significance for current institutional arrangements” (Ragin, 1987, p. 6). This is also a key reason for the cross-case analysis in this study.

To proceed to cross-case analysis, the separate folders and framework matrices mentioned in the previous paragraphs were extracted into Excel and integrated into comparative templates (see for example Appendix I). As recommended by Eisenhardt (1989b), summary tables were used to support the rigour of analysis. Merging the two templates into one makes the similarities and differences more obvious and permits a structured cross-case comparison. The cross-case analysis was organised and presented in the same steps as described for within-case analysis. On the one hand, the focus of analysis was on the similarities and differences between the cases or occupational groups. On the other hand, the focus was between the MA and OM of the same organisation. The similarities and differences of both comparisons are presented and discussed in the respective Sections 6.2 to 6.5.

Across the above mentioned analysis steps, causal analysis integrates the emic with the etic perspective which permits the link of an individual piece of interpretive research with the extant body of knowledge (Lukka, 2014). Emic in this context means how the research subject develops its meaning whereas etic means the researcher’s interpretation on the studied phenomena (Denzin, 1983; Headland, 1990). Thus, the underlying data analysis is based on causality links which are intended to generate explanations out of this causality. This does not require regularity. This way of analysis is called the “conceptual move from the regularity to the counterfactual account of causality”

(Lukka, 2014, p. 560). In combination with the qualitative research strategy and skills of the researcher described in Section 4.5, this counterfactual account of causality is reflected in Chapters 5 and 6 by the presentation of findings using graphical figures (e.g. Figures 5.1 and 6.7). Thus, these figures do not intend to express regularity but are an analysis of causality based on an interpretive epistemology (Lukka, 2014).

To conclude, the coding and overall analysis was conducted to the following principles. First, it is important to fit the material into a context of communication. Second, the analysis is a systematic process which follows the process steps of Creswell (2014, p. 197), even if in an iterative way. This means that the analysis is based on predefined rules which can be followed easily by other researchers. Third, the counterfactual account of causality requires a more graphical analysis. Fourth, the categories are one focus of the analysis and contribute to the reliability of findings. Fourth, the assessment of results according to quality criteria is considered important. This data reliability and validity are detailed in the next section.

4.9 Data reliability and validity

This section is devoted to the quality criteria of qualitative research. Following the constructive approach, it is difficult to evaluate the quality of a qualitative study. Thus, alternative criteria to the quantitative approach of reliability and validity are chosen for this case study research (Lincoln and Guba, 1985; Guba and Lincoln, 2005). Two main concepts for qualitative research are applicable for this study. First, Cassell and Symon (2004) mention the criterion of reflexivity for qualitative research. Second, Ryan, Scapens and Theobald (2002) define quality criteria for case studies which can be particularly split into procedural reliability, transferability and contextual validity. Each of these deserves explicit explanation in the following.

4.9.1 Reflexivity

According to Cassell and Symon (2004), reflexivity corresponds to the critical appraisal of one's own research practice in different aspects. First, a critical appraisal of methodology is part of reflexivity. This includes the research design, the interpretations, the role of the researcher and all the choices during the research process. Critical

appraisal means that the researcher critically reflects the other options with the respective advantages and inconveniences and solidly argues the choices made. This research justifies the choices mainly in terms of theory (Chapter 3) and in terms of methodology (this chapter). Second, reflexivity encompasses the recognition of the researcher's background's influence on the produced knowledge. For this study the introduction (Chapter 1) revealed the practitioner background of the researcher. Thus, the choice of dual character of the study based on interviews with MAs and OMAs as well as from different organisations was particularly important in order to gain different perspectives. The researcher purposively denied the choice of only interviewing MAs and of only staying within the researcher's organisation (with a longitudinal case study e.g.). Thus, overall the reflexivity criterion was applied to this study.

4.9.2 Procedural reliability

According to Scapens (2004), it is important that the researcher applies procedural reliability, which consists of the adoption of appropriate and reliable research methods. This research disposes of a clear research strategy and methodology with a clearly specified research objective and rSQs (see Sections 4.5 to 4.8). The case study process is documented and a case study database is created with QSR NVivo 11 (Ryan, Scapens and Theobald, 2002) and Excel. The database contains case study notes and memos, primary records and secondary data collected during the case study (Yin, 2009, p. 120). Additionally, an audit trail of all the research activities and the case analysis is developed and constantly documented in a research diary (Ryan, Scapens and Theobald, 2002). Following these methods, procedural reliability is achieved. The same procedural reliability is applied to the literature review in Chapter 2 and to cross-case analysis based on Excel tables for data analysis (see e.g. Appendix I or Appendix J).

4.9.3 Transferability

Transferability is based on external validity from quantitative research which means that findings can be generalised to other settings (Ryan, Scapens and Theobald, 2002). Statistical generalisation only applies to survey research which is not able to explain the how and why of an interaction and is consequently not adapted to answer the research objective for the underlying study. Only exploratory case studies can suggest hypotheses

for later empirical testing and thus contribute to statistical generalisation (Ryan, Scapens and Theobald, 2002). However, this case study is not exploratory but more descriptive (Scapens, 2004) and intends to fulfil theoretical generalisation. Theoretical generalisation can be the extension of theory to a wider context or the extension of the applicability of the case study findings to other contexts based on theory (Ryan, Scapens and Theobald, 2002). Due to the risk of confusion, the term generalisation is avoided in case study research. Instead, the term transferability is used which refers to the transferability of findings from one context to another and to the degree of comparability of different contexts (Ryan, Scapens and Theobald, 2002).

The present research is subject to extension by transferring the results to a broader theory – which is the updated role episode model (Section 7.3.2) – and by transferring the result to different contexts (Section 7.3.3). A very detailed description of the participants and research process (see whole Chapter 4) allows the reader to draw conclusions regarding the transferability of the findings (Creswell, 2007, p. 209). Additionally, the research design with a dual case study looking at two occupational groups with diverging views adds to the transferability, as the data are analysed from an interdisciplinary point of view.

4.9.4 Contextual validity

The traditional quantitative quality criterion of internal validity is concerned with the choice among competing and falsifiable explanations (Kvale, 1994, p. 166; Miles, Huberman and Saldana, 2014, p. 312) and thus with the demonstration of clear and coherent case study findings (Patton, 2002, p. 467). Following Yin (2009, p. 42), internal validity mainly refers to case studies when the researcher tries to explain how and why an event causes another event (causal relationship). This internal validity is replaced by contextual validity in interpretive case study research and refers to the credibility of the findings and to the conclusions that are drawn (Ryan, Scapens and Theobald, 2002).

Scapens (2004) suggests several tactics to cope with these concerns: data triangulation, method triangulation and researcher triangulation. According to Yin (2009, pp. 116–

117), “data triangulation [...] essentially provide[s] multiple measures of the same phenomenon”. For this study, multiple sources of data are collected in QSR NVivo 11, coded, analysed and compared with existing theories. This process allows the researcher to establish a chain of indications (Yin, 2009, p. 42). Method triangulation refers to the assessment of validity of sources of indications by combining research methods. Thus, this study combines semi-structured interviews with concept mapping. Regarding the data analysis, within- and cross-case analysis are integrated in the analysis process (see Section 4.8.4). This is supported by the use of a data analysis software like QSR NVivo 11 which helps to transparently analyse larger amounts of data (Yin, 2009, p. 43). Based on these analyses, it is possible to combine the findings from the two cases and to build first explanations for the investigated interactions. Researcher triangulation refers to the assessment of the validity of the researcher’s interpretations of the findings. This potential interpretation error, is partly re-mediated by concept mapping as a written concept of interaction leaves less room for interpretation.

4.10 Limitations of case study approach

The sections above detail the strengths of the case study approach. However, there are certain limitations of this method that also apply for the underlying study. First, a potential lack of rigour in case study research is a common claim (Yin, 2009, p. 14). This limitation is overcome by a very detailed description of the research process (see Sections 4.7 and 4.8), by the application of quality criteria (see Section 4.9) and by the use of a research database in QSR NVivo 11. Second, a common criticism is that the generalisability of case study research is weak (Scapens, 2004). This thesis uses purposive sampling (see Section 4.7.3) and not statistical random sampling and is – by definition – not statistically generalisable. As previously detailed a potential replication is more of an analytical than statistical nature. Additionally, an interpretive qualitative researcher does not look for a larger generalisability of the findings but prefers a deeper understanding of the underlying processes. Third, case study research is criticised for suffering from potential bias (Yin, 2009, p. 14). Triangulation (refer to Section 4.8.2) and reliability measures (see Section 4.9) are employed in order to reduce potential errors and misinterpretations of the study. Following template analysis is a further measure to mitigate such errors. Fourth, case study research can be time-consuming and

expensive (Yin, 2009, p. 15). This comment is based on the longitudinal character of some single case studies or on a mix with ethnography which generally takes more time. The underlying study which took place between October 2016 and July 2017 suggests that a case study design is not necessarily more time-consuming than any other method. For the underlying thesis, the richness of information outweighs the above named limitations – especially when considering that a majority of the limitations can be overcome. It is argued that no other research method offers a potential to obtain the “deep understanding” and “richness” necessary to explore the processes of an organisation (Ahrens and Dent, 1998).

4.11 Chapter summary

In summary, this chapter described the methods adopted for the underlying thesis based on the research objective, a set of assumptions of knowledge and on a chosen theory. The researcher utilised an interpretive paradigm for this thesis. The choice of qualitative research strategy and case study method were guided by the nature of the research. A comparative case study, combining semi-structured interviews (see Appendix D for interview guideline) with secondary data (concept mapping – example in Appendix E) were described as triangulation. The case selection process was followed by an explanation of the data analysis based on coding with QSR NVivo 11 and analysis tables in Excel. Next, the quality criteria of the study were outlined. Finally, the chapter closed with some limitations of the case study method. The next chapter presents the within-case analysis of each case or occupational group.

CHAPTER FIVE: Empirical study – findings of within-case analysis

5.1 Introduction and case overview

Chapter 4 elicited the rationale for the research methodology and the design for collecting and analysing data for the present study. This chapter describes the findings of the case study and presents the within-case analyses. The latter consist of a detailed study of each individual case (i.e. occupational group of MAs and OM)s). While referring to some of the extant literature where appropriate, this chapter primarily describes (rather than discusses) the empirical data. Chapter 6 will reveal common understandings and differences based on cross-case analysis. It will also present a discussion and theoretical interpretation.

The analysis in this chapter is structured as follows. After the description of the steps of analysis in Section 4.8.4, Section 5.1.1 presents the common characteristics of the case organisations, with Section 5.1.2 detailing the characteristics of the occupational groups and individual participants – the MAs and OM)s). Within each case, the four rSQs structure the sub-sections of the analysis of the MAs (Section 5.2) and the OM)s) (Section 5.3). After a description of the role of the MA and the characteristics of a PMS, the interactions between the key characteristics and the role of the MA are examined. Last, the influential factors of this interaction are analysed and presented.

5.1.1 Common characteristics of the organisations

This section provides detail on the industry sector, turnover and number of employees of participant organisations. As the semi-structured interviews were conducted with one MA and one OM in the same organisation, the company information is only described once. Large companies are the scope of the panel (for sector and size see Section 4.7.3) with 16 companies participating. Thirteen companies are of German origin with their headquarters (HQ) in Germany. Three companies are of European origin (France and Italy) with a respective German subsidiary. To protect the confidentiality of individuals and organisations, interviewees are anonymously referred to using a lettering system. The number indicates the organisation and the letters indicate whether the interviewee is

an MA or an OM. During the case selection process, MAs identified OMs with whom they had a close working relationship (or *vice versa*) and thus the referencing also reflects a matched pair from an organisation.

5.1.2 The MAs' and OMs' cases as occupational groups

This section provides detail on the MAs' case and OMs' case as occupational groups. Thus, the participants' gender, age range, focus of activity, experience and educational level are described.

The occupational group of MAs consists of thirteen male and three female interviewees with seven participants aged between 30 and 40, six participants aged between 41 and 50 and three older participants. The range of activities of the interviewees is multitude – two participants are chief financial officers (CFOs) of the German subsidiary, four participants mainly support sales activities, three participants support a broader scope of sales activities on divisional level including a total P&L statement, three participants mainly support the manufacturing and operations department and four participants are in charge of the broad worldwide scope of management accounting for a total division or BU. The participants are hereafter referred to as MA1 to MA16.

The MAs' work experience includes the work experience before they joined their current employer. The MAs' span of industry experience ranges from approximately 10 to 32 years, the average being 17 years. Nine of the MAs have experience solely in the current company, seven have worked in at least two different companies. In terms of educational background, the MAs are almost entirely educated to a university level, only one is trained as an industrial clerk. Eleven of the MAs studied business administration (thereof one after studying political sciences and four after doing an industrial clerk training), four MAs studied industrial engineering. The interviews within the case group lasted between 50 minutes and 1 hour and 57 minutes, the average was 1 hour and 8 minutes.

The occupational group of OMs consists of fourteen male and two female interviewees with five participants aged between 30 and 40, seven participants aged between 41 and

50 and four older participants. The range of activities of the interviewees is multitude – one participant is chief commercial officer (CCO) of the German subsidiary, eight participants are sales or marketing managers, three participants are head of operations or manufacturing and four participants are in charge of a BU or a total division. The participants are hereafter referred to as OM1 to OM16.

The OM's work experience includes the work experience which participants had before they joined their current employer. The OM's span of industry experience ranges from 11 to 33 years, the average being 22 years. Five of the OM's solely have experience in the current company, eleven of the OM's have worked in at least two different companies. In terms of educational background, the OM's are almost entirely educated to a university level, only one started his career as an apprentice. Seven of the OM's studied business administration, seven studied engineering (thereof two industrial engineering) and one studied biology. Two of the non-business administration trained OM's decided to do further business administration studies during their later career. Two other OM's possess a PhD qualification. The interviews within the case group lasted between 37 minutes and 1 hour and 50 minutes, the average was 1 hour.

5.2 The MAs' view

5.2.1 Introduction

This section summarises the within-case analysis for the MAs based on the structure of the four rSQs, starting with the contextual rSQs in order to analyse the main rSQs afterwards. The role perceptions of the MAs (rSQ1) follows the structure of the literature Section 2.2 based on the functions of the MA described by Järvenpää (2007) (Section 5.2.2). In addition to the activities, how the activities are performed is also revealed. The key characteristics of a PMS (rSQ2) follow the structure of the literature chapter based on a PMS as a framework (see Section 2.3.4) and the definition of Ferreira and Otley (2009) – with its eight core and four pervading or enabling characteristics (see Figure 2.2). This structure fits with the overall research objective and the necessary operationalisation of characteristics of a PMS (Section 5.2.3). The interaction of the PMS characteristics with the role of the MA (rSQ3) is analysed in Section 5.2.4 and based on Byrne and Pierce (2007) and the role episode model (Figure

3.2). Concept maps are used in addition to the primary interview data. Section 5.2.5 on influential factors develops potentially new findings based on Ferreira and Otley's (2009) extended PMS framework and on Katz and Kahn's (1978) role episode model. All the quotes used in this section are exemplary quotes and further details and examples can be found in Appendix F for rSQ1, Appendix G for rSQ2, Appendix H for rSQ3 and Appendix L for rSQ4.

5.2.2 Perceptions on roles of MAs

This section analyses the MA's view on role perceptions of MAs and thus deals with rSQ1. All of the MAs interviewed considered providing information, analysis of the business situation and reporting as a common key task of their activity. This is particularly illustrated by remarks such as:

This means to provide reports, data, information and to present them in a way that they provide the maximum content for the people who require and need them.
(MA3)

Our daily business is mainly reporting. We provide data. (MA12)

Thus, reporting and providing information appears to still be a core activity of the interviewed MAs. This focus on reporting is also interesting as the MAs involved in the study all work closely together with OMs and cannot be considered part of the corporate accounting departments (see also Table 4.2) where a core financial reporting activity would be expected (Hermanson, Edwards and Ivancevich, 2014, p. 6). Due to higher availability of resources in their accounting departments and due to larger potential economies of scale, large companies are perceived to be among the first to implement automation. This was not the case at the interviewed companies. Interestingly, none of the MAs talked about shared services for reporting purposes ("finance factory") (Arbeitskreis Finanzierung der Schmalenbach-Gesellschaft für Betriebswirtschaft e.V., 2017, p. 313) or further digitalisation yet (Arbeitskreis Finanzierung der Schmalenbach-Gesellschaft für Betriebswirtschaft e.V., 2017, pp. 310–315). Business intelligence (BI) solutions and SAP S4 Hana were mentioned as future projects (MA3, MA1). However, none of the MAs had an implemented solution yet. Some of the interviewed MAs described how projects were just starting to face this challenge, "[...] tomorrow a tool company will present us a BI system solution" (MA3) or "[...] Then I hope that by 2019

or perhaps in 2019 for the planning [...] another performance process will be available for an automatised budgeting [...] (with the help of S4)” (MA1). However, the majority of the MAs did not even raise such points, or still have major challenges to overcome (“everybody talks about big data – I would like to have big data but I don’t have any”, MA9). Three out of sixteen MAs consider reporting and providing information as their main task (MA11, MA13, MA15). This is reflected by commenting on the “P&L [...] [where] we work closely together with [financial] accounting” (MA11) and statements like “we focus more on the P&L part, the sales steering is in the hands of the head of sales” (MA11). MA15 stated that they are “responsible for the internal and external accounting” where external means the legal entity and internal means the departments in the company. She added that “it is all customised according to the information needs of the holding company”. All the above is an indication of the *scorekeeping function* of the MA described by Järvenpää (2007) as detailed in Section 2.2.1 which is – as presented above – omnipresent among the MAs interviewed.

Planning and forecasting is another common activity according to the MAs interviewed. Forecasting commonly concerns the ongoing year whereas budgeting can concern only the following year $n+1$ (MA4, MA5, MA15), a specific year in the future (e.g. only the year $n+2$ for MA10) or the next year plus several further years (e.g. for all the years $n+15$ for MA1, $n+2$ for MA6, $n+3$ for MA8, $n+5$ for MA9, $n+5$ for MA11, $n+3$ for MA12, $n+3$ for MA13, $n+5$ for MA14, $n+3$ for MA16). The planning of several years is referred to as strategic planning (Hermanson, Edwards and Ivancevich, 2014, p. 4) where the number of relevant years depend on the life-cycle of the products and the volatility of the sector. In addition to the scorekeeping and planning activities, three MAs were strongly collaborating with sales departments to whom they provide calculations for certain pricing activities. This represents the *Vier-Augen-Prinzip*⁶ of internal controls which can be attributed to the controlling function (Järvenpää, 2007). No additional focus of activities were noted and the focus of activity was restricted to pure “pricing” issues. This is supported by the following comment by MA6:

If we follow these [pricing] conditions, it means the following revenue decrease vs. planning but still € X_m of contribution margin. [...] If higher volumes are

⁶ Literally translated as four-eyes-principle, two-man rule or dual control principle. The implication of two responsible people hinders unsound, dubious or even criminal behaviour (Burger and Schmelter, 2012, p. 145).

concerned, it [the decision] is not only with the head of sales but goes up to the CEO [...] so that nobody can say: we did not know.

Thus, the above mentioned pricing and internal control activities can be aligned to the *controlling function* of the MA (Järvenpää, 2007) together with the planning activity.

On the other hand, the majority of the interviewed MAs describe that their analyses are of major importance for holistic decision-making and steering of the business. This is further illustrated by the following quotes:

In the past we focused much more on monthly reporting and [...] variance analysis. This has changed. Now we more support the strategy process based on all the commercial questions [...]. (MA4)

My main task is to ensure [profitable] growth. (MA10)

This typically concerned a limited area like production departments or a total business field like a BU or division. These activities can be categorised as *business support* (Järvenpää, 2007). It is interesting to note that the business support function is mostly performed in addition to the scorekeeping function, which means that MAs tend to play multiple roles at varying degrees and that roles tend to be rather complementary and not exclusive (Chang, Ittner and Paz, 2014).

Apart from *what* activities MAs are performing, the MAs interviewed also noted *how* the activities are performed. System-wise, it has been mentioned above that future projects are running in some of the companies in terms of data analysis and automation (MA1, MA3, MA10, MA12, MA13). Another explicitly mentioned tool for MAs' current needs was a spreadsheet programme – like Excel – as the available systems are frequently not flexible enough for the reporting; or as an Excel interface needed for the further work with the data. Pivot tables, macro programming and formulas were explicitly stressed as important spreadsheet applications. Behaviour-wise some of the interviewed MAs also stressed the discussion “on equal terms” as an important character trait. This means to have a discussion suggesting the same hierarchical level and with equal voices. All of these “hows” can be attributed to the three roles of the MA, even if tool issues mostly concern the scorekeeping role and the aspect of “on equal terms” mostly concerns the business supporting role.

The focus of the MAs and role combination is a function of the various factors of the role episode model and further antecedents investigated by other researchers (Byrne and Pierce, 2007; Chang, Ittner and Paz, 2014). This study is thus in line with the existing literature on MAs' roles in terms of the dichotomy of roles – the scorekeeping and business support roles are also found in the study data. It is also in line with other literature in terms of the dichotomy not being enough to describe the total activities of the MA (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013). Additionally, it adds to the discourse of roles being complementary rather than exclusive (Chang, Ittner and Paz, 2014). The data from the MAs' case suggest that it is possible for the MA to work in a scorekeeping, a controlling and a business support function simultaneously. As presented previously above, all of the MAs consider themselves taking the scorekeeping function, nearly all of the MAs also noted a controlling function and a majority also claimed the business support function to be important in their daily work (see Appendix F). Very few of the MAs appear to be torn between the classical scorekeeping or controlling activities and the business support (MA13). This was particularly the case for those who still spend a lot of time on scorekeeping activities (MA11, MA13, MA15). Interestingly, some were proactive and claimed to protect their position despite automation by focusing on added value and much more business support:

My guys have added value (MA3);

If you take the current daily business from the MA [...] there needs to be a new future perspective. And this is what it is [business support] (MA3).

An additional interesting statement analysed across the total group of MAs is that activities and projects are constantly changing with regard to certain nuances, or even whole work processes of the MAs. MA5 mentions productivity reporting which has increased in frequency from a monthly to a daily reporting in organisation 5. MA10 describes more fundamental changes for organisation 10.

We had a budget and an ambition each year, budget being your obligatory target and ambition being a more ambitious add-on target. The year after, we had a budget for the next year and an ambition for n+2. Another year, we erased n+2. The

year after, we made a 5 year plan in the sense of an ambition. [...] Meanwhile we only have a target (neither budget nor ambition) for n+2. (MA10)

This comment provides an indication that the currently described activities of the MA are not stable for many years, but underlie permanent changes. These changes might also be one reason for the diverse classification of roles (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013). Also, such a volatile environment is time-consuming and does not permit the MA to take credit for work accomplished. All these points need to be taken into account when analysing the roles of the MA, later.

5.2.3 Perceptions on key characteristics of a PMS

This section operationalises and amends Ferreira and Otley's (2009) core and enabling characteristics based on the findings of the MAs. This analysis is necessary to prepare the answer for rSQ2 (see Section 4.2 for rSQ2 and 6.3 for the answer) and in order to prepare the answer to the overall research objective, the interaction of the key characteristics of a PMS with the role of the MA (see Section 1.2). Table 5.1 summarises core characteristics represented in the study data of the MAs, a basic reference to literature and exemplary quotes.

	Literature (Ferreira and Otley, 2009)	Support/Further operationalisation by MAs	Exemplary quotes MAs
1) Vision/Mission	<ul style="list-style-type: none"> - Vision: desired future state (Johnson, Scholes and Whittington, 2008) - Mission: overriding purpose of organisation in line with values / expectations of stakeholders - General objective: how organisational values are established / communicated 	<ul style="list-style-type: none"> - Explicitly mentioned by MA10 - Mission/vision available through secondary data; 	[The company values] are vitality and sense of responsibility. [...] We have a company vision that we update every two years. And this vision is not a figure-based target. [...] It is even unrealistic but it gives direction. [...]. The rest changes. It is the only constant and comprehensive definition. (MA10)
2) KSFs	<ul style="list-style-type: none"> - Truly critical to long term competitive success (Thompson and Strickland, 2003) - KSF are operationalisation of vision and mission 	<ul style="list-style-type: none"> - KSFs more frequently explicitly stated than vision/mission (MA8, MA9, MA10, MA13) - Supports that KSFs are operationalisation of vision and mission 	[...] Since three or four years, [the company is] more explicit in its statements. [...] 10% turnover increase p.a. and 10% EBIT margin. And this ten-ten was complemented one year later by another ten. Turnover, EBIT and R&D ratio. [...]. [...] And all this helps to make a strategy pursuable. (MA8)
3) Strategies and plans	<ul style="list-style-type: none"> - Translate strategic goals into operating goals (Chenhall, 2003) - Generation: top-down and/or bottom-up - Empowerment and communication added vs Otley (1999) 	<ul style="list-style-type: none"> - Supports translation of goals from strategy to operating goals - Top-down/bottom-up generation more frequently mentioned w/ target setting; not mentioned w/ strategies and plans - Communication/empowerment (wider involvement) especially lived with BSC (MA8) 	You basically come from strategic planning [...] then realise in the operative planning that you are still away from the strategic target that [...] was initially set. [...] Can we live with that – means that we get one's act together at the end or is the deviation so big that we need to readjust somehow. (MA6)
4) Key performance measures	<ul style="list-style-type: none"> - Strongly linked back to strategy and part of implementation (Johnson, Scholes and Whittington, 2008) - Restrain number of key measures in order to balance impact 	<ul style="list-style-type: none"> - Supports idea of indicators linked back to strategy - Further operationalisation: <i>discussion about right and sufficient KPI linked back to strategy, bindingness of KPI (MA8)</i> 	We are in charge of the top 50 indicators. They are discussed [...] with the departments. And will then be published in a report. [...] CO2, performance of IT systems, if the elevators run properly [...], cleanliness of the toilets, [...]. This is where I see, if I push the cost side too hard, what happens on the other side? It needs to stay an integrated whole. (MA1)
5) Target setting	<ul style="list-style-type: none"> - Tension: desired vs. feasible (Otley, 1999) - Financial vs non-financial measures - Targets 80-90 percent achievable (Merchant and Manzoni, 1989) - Benchmarks provide legitimacy 	<ul style="list-style-type: none"> - Target setting mainly with financial measures with three approaches: <ul style="list-style-type: none"> * Budget driven process (2, 7, 11, 15, 16) * Strategy driven (8, 9, 10, 12) * Mixed (1, 4, 13) - Focus on financial measures (MA7); non-financial (MA1, MA8) - Pure top-down process appreciated by few (MA4, MA16) and lived by one (MA4); rest of processes appear to be more mixed (first bottom-up and then top-down) - Benchmark only used as internal approach (MA9); and derived from past within organisation (MA4) - No evidence on achievability 	And for the strategy process and ongoing management I try to introduce relative targets. This is all about this hoshin kanri method. [...] We will fix these figures [...] and will integrate it into the budget planning next year. (MA1) During strategic planning a target matrix is built with five dimensions [...]. But we do not break-down the targets in a structured way yet. (MA9) The top-down expectations, i.e. targets, are frequently higher than the figures that have been consolidated bottom-up. [...] This does not necessarily mean that we can reduce our target, [...] but we highlight at least our risks and opps. (MA13)
6) Performance evaluation	<ul style="list-style-type: none"> - Follow up of individual, group or organisational performance - Objective, subjective, mixture - Relative performance evaluation (RPE) as alternative approach 	<ul style="list-style-type: none"> Basic distinction: <ul style="list-style-type: none"> - Individual performance (-) - Group performance - Organisational performance (+) => Trend to mutualise performance evaluation - Domination of mixture of objective and subjective performance evaluation - RPE only future idea of MA1 - Skills management aligned with performance evaluation (MA6, MA15) 	Here you have [what we call] individual management. Individual management means a monthly individual meeting with your boss. So you have a mission for the year. For this mission you set an ambitious indicator in each position. With a semi-annual review and yearly review. (MA10)
7) Reward systems	<ul style="list-style-type: none"> - Recognition, financial reward, promotion - Target: align personal goals with organisation (Hopwood, 1972) - Basic requirement for impact of reward on performance: skill management (Bonner and Sprinkle, 2002) - Group reward based on collective achievement 	<ul style="list-style-type: none"> - Financial reward: mixed (shopfloor, global/local targets) - Recognition: only MA16 mentions it (he does not feel it) - Promotion only discussed by MA14 (international move, divisional move) - In line with literature for alignment - Group reward not explicitly focused; further aspects: townhall meetings 	We have a bonus payment for the achievement of this [...] target. This is how it works. (MA5) I don't know if the rewarding part is there. I don't feel it. (MA16)

Table 5.1: Overview table of core PMS characteristics from an MA's view

In addition to the core characteristics of a PMS described in Table 5.1 above, five enabling characteristics are revealed in the MAs' study data, and are detailed now. Based on the findings, one of the four enabling characteristics of Ferreira and Otley (2009) was amended (see paragraph on information flows) and one core characteristic was switched to enabling characteristics in a modified way (see Figure 6.1). Thus, the core characteristic of organisation structure is switched to the enabling characteristics and renamed into *organisational factors*. This characteristic appears to be mentioned by the MAs more "incidentally" than explicitly. This is illustrated by the following example quote on the organisational factors in the context of PMSs:

We need to take out all the brakes and smash the organisation. The organisation slows us down. The organisation structure was a little complicated for a retailer. A holding company. [...] Many hierarchies. [...] The autonomy of the countries was very low. [...] And then they said that this organisation is all over. [...] We are now a union of autonomous countries. There is no more worldwide board of management. [...] So each country can take autonomous decisions up to €15m. Play the game. (MA10)

Interestingly, the MAs in this study appear to consider the organisational factors more as an enabling characteristic of a PMS than as a core factor. This is reflected by the fact that the organisational factor is either mentioned incidentally or as a circumstance for the other PMS characteristics. Expressions like organisational change rather being "a reaction than a part of the system" (MA4) and the organisation being a "brake" (MA10) support this classification and enlargement. The above also suggests that the view is rather on the large view of various organisational factors (size, change, products, technologies – see Section 3.2.5), than solely on the limited view of organisation structure as proposed by Ferreira and Otley. Thus, the MAs' study data reveal that organisational factors are more attributed to the second level of Ferreira and Otley's (2009) framework (i.e. the inner circle in Figure 2.2) than to the first core level, and that organisational factors rather replace Ferreira and Otley's (2009) characteristic of organisation structure. This might develop a slightly modified framework of a PMS with modified prioritisations of characteristics in comparison with the original model advocated by Ferreira and Otley (2009) (see Section 6.3.1 and Figure 6.1).

Another enabling characteristic of a PMS found in the MAs' data is *information flows (systems and networks) and their efficiency*. This idea of information flows is suggested by the following quotes:

If something went wrong, we see it based on the indicator. And if it runs fine, we also see it based on the indicator. Through the daily shop-floor discussions [...] employees learn which measures make them advance and which less. (MA5)

Only what is measured can be improved. This is one of our lean philosophies [...]. And the analysis where the deviations are, where they come from and to introduce [...] corrective measures later. (MA14)

Apart from the MAs working with lean production and lean management methods⁷ (mainly MA5, MA14 only partly), the information flows represented in the study data appear to be restrained to simple corrective management, meaning measures to close a target gap or the simple improvement of a process. Only the daily closed loop or feed forward information flows of lean management on the shop-floor permitted the organisation to learn continuously. This is supposedly due to a timely feedback in the daily meeting and a learning culture which is a core element of the lean management system. This split is in line with Ferreira and Otley (2009, p. 273) who describe a simple feedback or "single loop" process which means a corrective process as information flows. Alternatively, a feed forward information flow or "double loop" process enables the organisation to learn.

Tool-wise, ERP systems were standard for the majority of the MAs and these systems are mostly inter-dependent on other processes which do not concern accounting alone. However, the use of a more automated MIS with options to use big data analytics applications and with integrated and flexible planning modules or even the integration of non-financial data, was still not a feature as shown by the following quotes:

A big topic is actually big data. Basically we have an incredible amount of data at our disposal. And currently I think we do not make enough out of this data. [...] We have so many reports in our company and the question is if they could not be

⁷ Lean production or lean management (frequently only "lean") is a systematic method for waste minimisation within a manufacturing system without sacrificing productivity (Womack, Jones and Roos, 1990).

organised in a smarter way. [...] If it is a system or a dashboard or whatever, where one can access the most essential data [...]. (MA6)

That [a PMS] is linked directly to the origin of data [...]. That there are almost no manual steps to establish a report. [...] Currently it is a lot of manual Excel, a lot of copy-paste [...]. Not a very satisfying and qualifying work. (MA11)

Such an automated information system, as an enabling IT system, is claimed by many of the MAs, but is not yet in place in any of the interviewed organisations. As discussed in Section 5.2.2 some of the interviewed MAs described projects that have just started to face this challenge, “[...] tomorrow a software consulting company will present us a BI system solution” (MA3) or “[...] Then I hope that by 2019 or perhaps in 2019 for the planning [...] another performance process will be available for an automatised budgeting [...] (with the help of SAP S4)” (MA1). This also means that the integration of non-financial data or the integration of a more global PMS into an automated system appear to only be a second step or not even a target so far. This will also depend on the potential options to convert the total PMS to an automated IT system. The lean management system key performance indicators (KPIs) – as used in organisation 5 – might, for example, turn partially into an IT system but only after a total implementation of digitisation of the production areas (Industry 4.0). With regard to the information structure of such an automated IT system, the requirements appear to be derived from the good availability and presentation of data:

I have had the experience that it is less an issue of content than of presentation. The requirements are not to have static information any more but more interactivity, more flexibility in data analysis and data reports. This is actually the issue: dashboards, to know immediately where I am [...] and all the KPIs at a glance, with a traffic light logic. (MA3)

Based on the quote above and further findings, a broad information scope, timely availability on demand, different aggregation and interaction levels, as well as total availability of details and a good orientation (through graphics for example) appear to be the most important criteria for information flows. These criteria are in line with the general criteria selection in literature (Amigoni, 1978; Chenhall and Morris, 1986) even if the literature of the 1970s and 1980s could not yet imagine technical possibilities 40

years later. This claim for efficiency of data management is illustrated by the following example:

Such an [MIS] needs to show a certain efficiency, this means that cost and benefit need to be balanced. It needs to be as efficient and smart and automatised as possible. (MA11)

This leads to a potentially new operationalisation of a sub-characteristic of information flows, which is information efficiency. This means that the generation of PMS data does not constitute an end in itself but is a means to an end. Through an efficient generation of data with easy access, the credibility and motivation to work with the PMS can be increased as shown by the following quote:

And then of course the topic of digitisation [...] that I can create the transparency with the least personnel effort. And that I automatise to the maximum. And that I put all my resources [...] in data analysis and not in reporting or data preparation. (MA14)

New access to data analysis or artificial intelligence is expected to increase the efficiency even further. As these technologies had not been widely available when Ferreira and Otley published their extended framework in 2009, this issue was not yet mentioned and needs to be added from a current point of view. It could be expected that this characteristic will gain in importance in the coming years, due to further technical progress and developments that cannot even be imagined today. Due to the importance of the topic, Ferreira and Otley's (2009) characteristic of information flows, systems and networks is tentatively renamed to information flows and their efficiency.

Another activity to enable information flows, are meetings or regularly organised discussions. This is illustrated by the following quotes:

We are having reviews approximately three to four times a year. [...] With the big markets [...] you are in close contact anyhow apart from the reviews. (MA6)

We have monthly review meetings, where [HQ] participates partly where figures are discussed, presented and explained. (MA13)

Formal or informal meetings constitute information networks which are part of the information system. Even if not explicitly mentioned in the literature, they can be

considered an integral component of the enabling characteristics. Also informal networks of individuals are an integral part of an information system. They are more loosely coupled to the rest of the PMS and add information about further aspects of management control which do not need procedural formalisation, like for example office planning, knowledge about interfaces etc.:

We have this [...] global leadership programme. [...] where you basically exchange. [...] It is expected that you exchange and adopt other points of view. [...] The teams are deliberately mixed from different departments [...]. And to say: perhaps I can integrate best practice ideas in my own work. (MA6)

We have monthly [...] management team meetings where we do not necessarily talk about performance. [...] We talk about open positions, [...] recruitment, [...] salary increase [of employees]. We talk about things like if the office is well equipped, [...] where we can go on our next company outing. We discuss how our employees can better connect to the targets. [...] For me, it is one of the most important [panels]. (MA13)

Consequently, informal networks are also an important factor of information systems for some of the MAs in line with the literature (Ferreira and Otley, 2009, p. 274).

Another enabling characteristic is the *PMSs use*⁸. Even if use is as diverse as the PMS designs or frameworks used among the MAs of the study, the use can be clustered into more stable formal systems of measurement and into more learning-oriented and future-oriented systems. The formal use is illustrated as following:

This big cockpit chart we call it is really highly committed. There is really not much which is so rarely challenged here. The control process below is more ambiguous. (MA1)

The more learning-oriented or future-oriented use is represented by the following quote:

There is no real structure. [Only] a vision which is updated every two years. [...] And a vision is not a figure-based target. [...] The rest changes. This is the only constant and overall definition. [...] We have more autonomy to decide and to take risks. (MA10)

⁸ Denomination PMSs use has been used in the original Ferreira and Otley (2009) framework and is maintained in this study.

However, there is also a mixed example using formal mechanisms as well as learning orientation:

We have different elements how we structure our planning cycles [...] short-, mid- and long-term. [...] And this is what we finally linked in the last years. [...] And this [...] consistency is an essential element [...] to implement continuous improvement and measure performance. And this what I would call system. (MA4)

This split of formal use and learning-oriented use can be understood in the terms of Simons' LOC framework (1995) as diagnostic use and interactive use. The study data of the MAs thus operationalise the concept of use, according to Simons (1995). The concept of relational and transactional use by Broadbent and Laughlin (2006) is considered less suitable for this study as it represents absolute ideal types whereas the study data represent further points along the continuum. The study examples above suggest that even the diagnostic and interactive use can come as a mixed use and not only in pure variants.

A further enabling characteristic of a PMS is *PMSs change*⁹ with its antecedents and consequences. This is illustrated in the study data of the MAs by, for example, the following quote:

And growth was not stable – growth was even diminishing. [...] And the profitability was stable or also diminishing. [...] OK what to do? We need to take out all the brakes and we need to destroy our organisation. [...] Our DNA is chaos management. [...] Just imagine what happened. 3,500 employees were working in this organisation and you say: organisation destroyed – does not exist any more. [...] [The vision and mission] is the only thing that does not move. All the rest can disappear from one day to the other. (MA10)

The above is an example where weak economic figures entail fundamental strategic and organisational change which ripples across the PMS. Only the vision remains a stable overarching element, all the other characteristics of the PMS are subject to continuous change. This example is the most extreme example presented by the data of the MAs. There are also more technology-based changes which target an efficient system as one single source of truth as illustrated by the following quote:

⁹ Denomination *PMSs change* has been used in the original Ferreira and Otley (2009) framework and is maintained in this study.

We are just about to develop such a system. We develop a, we call it MIS, a dashboard system where we can break down KPIs from top level to bottom level so that the head of division can see right away where he stands with all his functions and where the department head can also see his department figures [...]. (MA3)

The following quote illustrates continuous rather than fundamental changes with regard to the elements of the current PMS:

The BSC was introduced [in our company] in the early 2000s [...]. It regularly undergoes such [...] cycles: we do a little bit more, push a little bit more. Then we have more complexity. We are a technology-oriented company. This means that the researcher DNA lives in all of us. We want to be very precise. And then we realise that it is too much and that it is no longer manageable. And then we try with less details and we realise at the end that we simply need to reanimate a bit. (MA8)

Thus, the study data of the MAs represent different levels of change of a PMS. Antecedents range from new organisational structures, to more self-service-based information needs, to continuous improvement of the PMS. The consequences range from the focus on a very global vision, to a gain of efficiency of the MA, to a more continuous involvement of the MA. Consequently, a link to management accounting change can be found in the study data as suggested by the literature (Burns and Scapens, 2000; Burns and Vaivio, 2001; Scapens and Jazayeri, 2003). The potential incoherence among the characteristics of a PMS due to a lag of the rate of change (Ferreira and Otley, 2009, p. 275) could have become visible in organisation 10 where the change was radical and the organisation ceased to be (see quote of MA10 on p.151). However, the focus of organisation 10 on the top level vision of the PMS by leaving all elements below more flexible, mitigated a potential lag of the rate of change of the further PMS elements. Overall, the study data foster a more reactive change of the PMS based on the examples given above.

The last of the enabling characteristics is *strength and coherence* of the elements of the PMS. This means that the system or framework in total, is greater than the sum of its parts. The following quote by one MA provides an indication of various levels of coherence:

The problem is: what do you want with a single business case? The transparency is not helpful if you do not understand the total impact.[...] And now we are about to

convert the business case to the business plan. And to check the actual performance: what happens after SOP [start of production] with your business cases? [...] And now we see that the formerly positive business cases are now negative in the real world. And this is restructuring phase two. (MA7)

As further quotes also suggest (see Appendix G), particularly organisations 5 and 8 appear to show a special coherence. Organisation 5 with regard to the coherence of the lean system within the production area and organisation 8 with regard to the use of the BSC throughout the company. Even if Ferreira (2002) states that control failures can happen if there is no fitting of the single parts and that mismatches can be created, organisation 1 and 10 for example explicitly live a matching top-level PMS with more individual freedom for the line managers below. Theoretically, mismatches could be created as elements for the line managers are not predefined but are based on their discretionary power. This concept could be due to the sectors of activity of the company where MA1 stresses that they “have the problem that [they] have a zoo of business areas” and where MA10 stresses that they “need to take risks” and that they “have full autonomy to sign everything up to €15m”.

In addition, the study data of the MAs show that there is only one organisation which appears to manage the BSC as a global steering approach and as a real system throughout the organisation. Further systems, like the lean production system, can only be found within one functional area, which is in the underlying case the production department – even if initiatives were mentioned to spread the idea to other functions (organisation 14). This supports Otley (1980) who found that PMSs tended to be composed of sets of loosely coupled elements and were thus rather called packages than control systems (Ferreira and Otley, 2009, p. 276). Looking at the whole study data of the MAs, both aspects of systems (MA1, MA5, MA8, MA10) and packages (remaining MAs) can be found, packages being the more frequent approach. The reasons for these different approaches might lie in the organisational factors and further contingent characteristics (i.e. culture, context, attributes of the person, interpersonal factors) of the PMS (see Section 6.3.1), an important component being the discipline (OM4) of the organisation with its individuals (see Sections 5.3.3 and 6.3.2). Based on this PMS and package distinction, this study supports Cooper, Ezzamel and Robson (2018), who rather define different levels of interdependence of the PMS concepts than just talking

about packages. A structure of interdependence levels can also be supported by this study and will be defined in more detail in Section 6.3.2.

To conclude on enabling characteristics, the study data of the MAs contain two complementary characteristics which cannot be attributed to one of the previous characteristics: the *attributes of a person* and *interpersonal factors*.

And this cockpit that we discussed in the very beginning is a 100% committed [...]. All the rest is less structured. [...] Where the human factor and the collaboration factor are apportioned to. (MA1)

These characteristics are only explicitly mentioned by one of the MAs, possibly as they are not part of the key characteristics which are the core and enabling characteristics, but more a contingent factor. Even if not particularly supported by different MAs, these two factors should be integrated into the outer circle of the PMS framework. This outer circle, however, is not further focused for this rSQ2 of the key characteristics of a PMS but rather for the influential factors of rSQ4 (see mainly Section 6.5). This is also in line with Ferreira and Otley's (2009) key scope of the PMS and their view on the outer circle of contingent variables.

5.2.4 Interaction of the key characteristics of a PMS with the role of the MA

Before looking at the interactions, a focus is given to the PMS characteristics as a surrounding condition. According to Katz and Kahn (1978), organisational factors, attributes of the person and interpersonal factors are all surrounding conditions and contextual factors of the role episode. For this study, attributes of the person and interpersonal factors are rather contextual or influential factors than part of the core role episode process and will be detailed in Sections 5.2.5 and 5.3.5 together with other influential factors. Organisational factors, however, are part of the enabling PMS characteristics as detailed in 5.2.3 and will be detailed in 5.3.3. Thus, they are part of the interaction investigated for rSQ1. Organisational factors – as will be shown – can be considered an antecedent of the role of the focal person, here MA (see Section 3.2.5). This is also in line with Byrne and Pierce (2007) who identify a PMS as an antecedent of the role of the MA. However, they identify a PMS as one of the antecedents among

others and the further details of the interaction are left open. Characteristics of a PMS are not further detailed here (see Section 5.2.3), rather a PMS is considered as a whole.

The MA's view on the interaction of key characteristics of a PMS (see Section 5.2.3) with the role of the MA (see Section 5.2.2) is now analysed. Katz and Kahn's (1978) role episode model (see Section 3.2.5) is used to derive an updated role episode model. Thus, findings are placed on the updated role episode model with a discussion following in Section 6.4. The updated model is illustrated in Figure 5.1 and is described in more detail below. Before going into further details, it is important to translate the theoretical role episode model (see Section 3.2.5 – Figure 3.2) into the underlying findings of the study data. Thus, the focal person corresponds to the MA and the role senders correspond to the OM (the counter-part interviewee). The following paragraphs focus on the process of how these parameters interact from an MA's point of view. An additional analysis of which characteristic of PMS might generate which role of the MA, together with reference to literature and discussion, will be presented in the cross-case analysis in Section 6.4. Further exemplary quotes can be found in Appendix H.

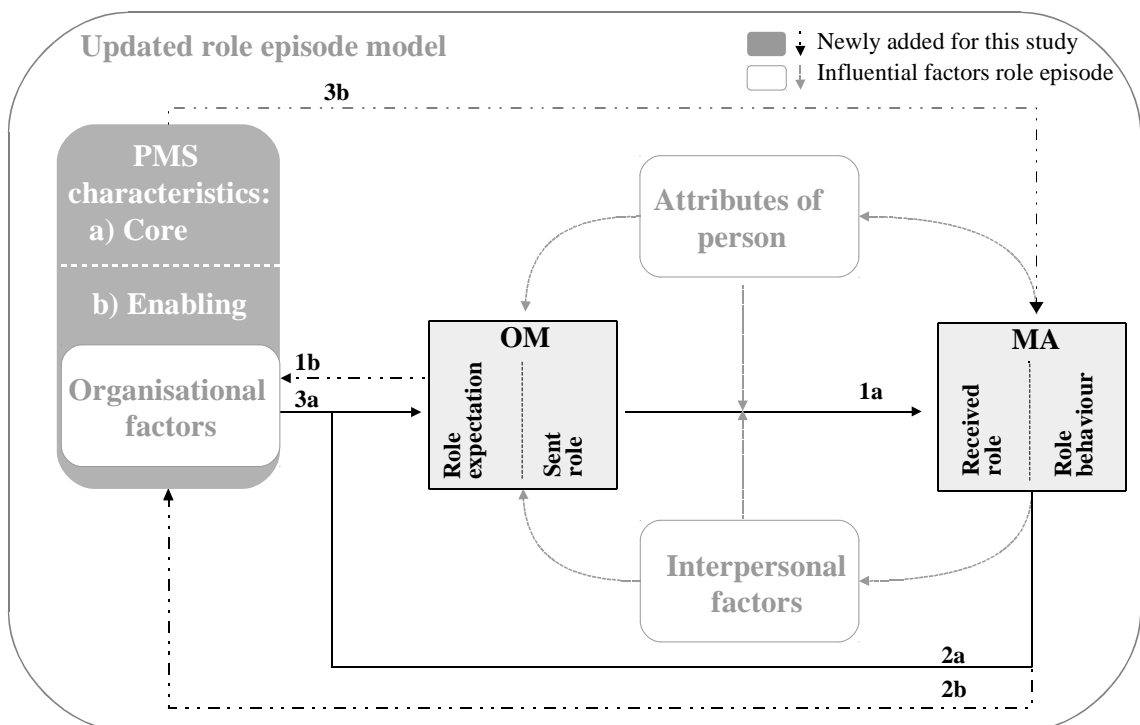


Figure 5.1: Updated role episode model (Katz and Kahn, 1978)

The following paragraphs detail arrows 1-3 of Figure 5.1 based on the view of the MA. This means that certain parts are evaluated from a third party view i.e. arrows 1b and 3a. Despite claims of MA10 that his job “is to accompany chaos [and that] there are no well-defined interactions”, a certain basic model can be identified across the study data as illustrated in Figure 5.1. Arrows 1a, 2a and 3a correspond to the classical core concepts of the role episode (Katz and Kahn, 1978).

Firstly, the core role episode starts when OM has a role expectation and sends a role to the MA, who receives it and translates it into role behaviour (arrow 1a). According to some of the MAs, this process might concern issues with regard to target setting or target break-down (MA5), to PMS design or PMS implementation (MA9), to KPIs (MA3), to strategy (MA12) or to exchange on commercial decisions (MA11,12). Interestingly, the examples given concern primarily expectations about the controlling and business support function and less the scorekeeping function. Just focussing on the process, this is illustrated from an MA’s point of view in the following quote:

Well generally our sales department is also very chaotic and they think about so many things how to gain money [...]. And we are [...] then aligning the people and define clear processes which structure the whole company. [...] Well what I wanted to describe is that in my view the MA is the one who is responsible for such a PMS. Who places and edits the requirements of the management, of the OM.
(MA11)

Appendix H gives more detailed exemplary quotes and descriptions, talking for example about “conveying objectives” (MA5) or “mutual exchange” (MA12) which are expectations going beyond the scorekeeping activity of the MA.

Parallely or alternatively at any stage later in the role episode, the OM may directly influence the characteristics of the PMS (arrow 1b) or feedback to the PMS. This input into the PMS may directly concern different characteristics as target setting, reward systems or general requirements. This input is illuminated by the following quote:

And then feedback is necessary from the OM to the target system in order to stay realistic. Otherwise we end up with fairy tales. (MA1)

Secondly, the MA could give feedback to the OM on the one hand (arrow 2a), and to the characteristics of the PMS on the other hand (arrow 2b). Arrows 2a and 2b can run parallel, in a sequence or as alternatives. The feedback of the MA to the OM (arrow 2a) can be activities directly referring to the role or beyond. The feedback includes strategy and ongoing management, measures and efficiency evaluation, requests with regard to the development of reporting KPIs, result discussion, discussion of measures for target achievement, coordination of operative planning etc. This is illustrated by the following quote:

If we are not on budget for a key account, the target is to check with the sales director how we can get back on track. So how can we generate additional volumes if volumes are missing. (MA13)

The following quotes illustrate the direct feedback of the MA into the PMS (arrow 2b). This feedback may concern both core and enabling characteristics. First, the feedback to core characteristics concerns e.g. key performance measures, target setting, performance evaluation and strategies and plans:

We were discussing that the MA is very important for the topic target definition: what exactly do you want to achieve with it? What would be the right indicator? What is calculable, what not? [...] He would do the calculation [...] And in the sense of control, what are the measures that we deduce. (MA8)

So this concerns the more long-term-oriented financial goals that we support here from finance together with HQ and where we deliver the input to fix the strategy [...]. (MA13)

The feedback into the enabling characteristics as e.g. PMSs change and information flows and their efficiency is detailed in the following:

This is what I would consider an ideal or a vision [...]: [the MA] indicates the need for change. (MA4)

And if you do not communicate that constantly and try to change it in the heads: this switch, that euros pay our salary and not tonnage [...]. By discussing it in reviews [...] you can show the people [...] what is more important for the organisation. (MA13)

Before looking at the next steps, the impact of organisational factors needs to be investigated. Based on the relevant interview data of the MAs, potential reorganisation of the structure, age of the organisation, economic situation, variety of sectors, strength of hierarchies and alignment of steering structure with reporting structure determine the main organisational factors. Particularly the factors of age of the organisation and strong hierarchies are illustrated by the following quotes:

It is a little difficult because you intervene in a structure which is 40 years old [...].

(MA12)

But we were not capable yet as we were so split and as everybody had his small empire [...]. (MA15)

Thus, organisational factors have an overall impact on the updated role episode model and are thus part of the influential factors as depicted in Figure 5.1 and further explained in Section 5.2.5.

Thirdly, the characteristics of the PMS may on their part have influence on the OM (arrow 3a). Both core and enabling characteristics of the PMS can be a source of interaction. First, the following quotes illustrate core characteristics as reward systems, target setting and performance evaluation as a source of interaction:

The problem was that sales focused too much on volumes. And this meant that there was zero result responsibility of the sales department. [...] Currently sales is more involved in result responsibility through this system and we feel an improvement because they are directly measured with incentives based on the result of this system. (MA2)

And when it comes to deduce operative issues from this PMS [...] then I consider it as a task of [...] the OM to break them down on a doing level. (MA9)

The findings also illustrate enabling characteristics as a source of interaction. Particularly strength and coherence, information flows and PMSs change were mentioned by the MAs. This is represented by the following quote:

If something went wrong we see it based on the indicator. And if something was good we also see it based on the indicator. And through the daily scheduled shop-

floor discussions [...] the employees learn [...] which measure makes them advance [...] and which are not so efficient. (MA5)

Alternatively, parallel or in sequence, the characteristics of the PMS may directly impact on the role of the MA (arrow 3b). Again both core and enabling characteristics of the PMS can be a source of interaction. The following example illustrates the core characteristics where performance evaluation, strategies and plans and key performance measures can be a source of interaction:

So for me, if this here [the manual reporting] is omitted, the MA has much more time to use the MIS and to check: are we on track? Does the strategy fit? Where do we need to assess [...] measures? (MA3)

On the other hand, the findings of the MA also illustrate enabling characteristics of a PMS as a source of interaction. This might concern information flows, organisational factors or strength and coherence of the PMS which is partly illustrated by the following examples:

It changed in terms of steering the business more operationally with a set of available organisation and meetings [...] where the MA is represented. [...] Before the MA was the killjoy because he criticised budgets or because he did not approve investments because of payback periods etc. We have a much stronger outcome orientation now. (MA4)

Today I strongly work on the topic big data e.g. You know: we generate 20% of our business online. There is a lot of data to analyse. I also work a lot with logistics. (MA10)

The above mainly describes the first round of the role episode. The role episode runs in circles and classically takes some time to be effective on the MA as a focal person. Also, the acceptance of the PMS in the iterating role episode may take some time. This overall process is shown by the following quotes:

It was not a process which happened over night but it took some time. It actually took a few years until the sales colleagues internalised it [the result orientation]. (MA2)

At the beginning we were not highly welcome because we slightly stepped on the toes of the people [...]. [...] After a few months it changed. They suddenly asked for reasons why we had to cancel a meeting [...]. (MA12)

The order of the above described arrows is the order of the classical role episode 1a, 2a and 3a with the described add-ons or alternatives. Alternatively, the order can change and may for example also start with an impetus coming from the MA. The majority of the modifications suggested by the MAs are with the role episode starting at 2b. Also, the further overall order may slightly change. These changes are illustrated by the following quotes by way of example:

What directly comes to my mind is the [...] manually established [...] comparison: result of a customer order or customer project with regard to a long-term goal direction. [...] And since we have this closed system and since we discuss it regularly there is a new bindingness in this topic. [...]. And this was an internal impetus. We did of course not manage to introduce it overnight. [...] With this decision I know the impact for my future. (MA4) [2b as a starting point]

Now there are two cases: either it is within the defined conditions or it is out of range. Within the conditions it runs through, this means within target price [...]. Then there is no interaction with me but the interaction is with the system. The interaction with me starts if the target price is [below planning ...]. Then there is a request. (MA6) [starting with 1b and following with 3a, then taking up 1a etc.]

There were also three MAs who consider the role episode 1a, 2a and 3a between OM and MA as basic interaction. According to their view, the PMS characteristics are the result of this interaction or give the frame of interaction. This is supported by the design and description of the respective concept maps. The following quotes illustrate this view:

We as an MA [...] are part of the target definition and operative support [...] and are in permanent exchange with the OM. [And the PMS is] the permanent status exchange. (MA2)

This would be my picture. [...] In the middle I have the characteristics of a PMS where everybody agreed on [...]. And then OM and MA around. [...] This is the

specification [PMS] and they [OM, MA] buzz around this specification [...]. [...]
And for the daily exchange it is an exchange on equal terms. (MA7)

The sales target is given, the strategy is given. You just have to make it happen.
[...] You will do this [work] where these two [OM, MA] are involved. [...] They
are peers. (MA16)

Interestingly, the concept maps developed at the end of the interview permitted further analysis on parts of the three described interactions above which were only partly mentioned during the interviews. From an MA's point of view, the impact of further stakeholders (e.g. HQ, the board of management (BoM), the CFO, the supervisory board¹⁰ etc.) is revealed as an additional influential factor based on the concept maps. These stakeholders are basically considered as additional role senders and thus situated parallel to the OM. Figure 5.2 portrays an integration of stakeholders into the updated role episode model.

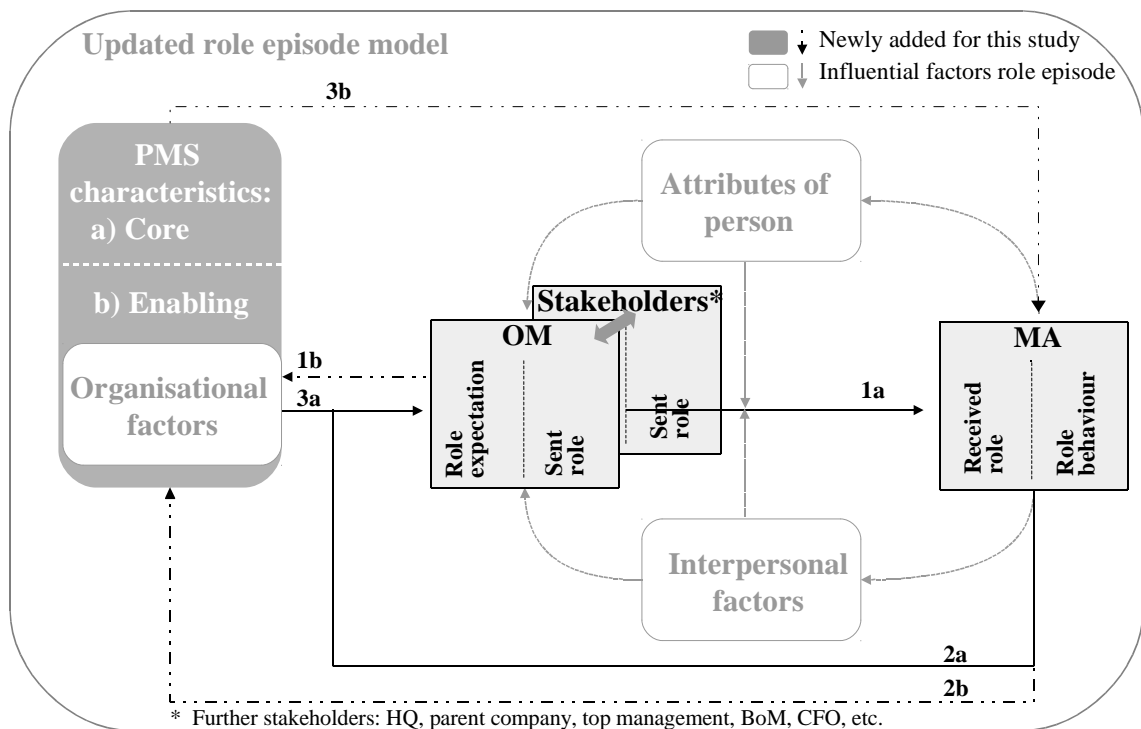


Figure 5.2: Updated role episode model (Katz and Kahn, 1978) complemented by stakeholders

¹⁰ In some countries – including Germany – the supervisory board is a group of people who meet regularly to approve the decisions of the company's board of directors. The supervisory board for example reviews the company's financial statements (Cambridge University Press, 2011).

When re-analysing the interviews based on Figure 5.2, it was concluded that support can be found for the majority of the arrows when explicitly looking for it in the interview data. This is illustrated by the following quotes:

And the targets per country are written down in this budget letter and sent to us [by HQ]. [...] These budget figures will first of all arrive on my desk [...] and we will respectively distribute them to the management team [...]. And this is more or less the top-down approach. (MA13) – 1a

I start at the top with governance. Supervisory board and BoM. [...] We could also add investors. [...] The task of the BoM is to consider it [the PMS] as a whole. And then to translate it into the strategy process [...]. The BoM does it in circles with their OMs by informing themselves “what do you think about it?” “how does it work?” (MA1) - 1a

This means that the MA is the one to discuss the information of the PMS with the management [BoM] and who gives recommendations also to the management [BoM], based on the information of the PMS. (MA9) – 2a

The quotes above mainly explain the BoM, HQ, the supervisory board and investors as further stakeholders intervening in the updated role episode model.

Based on the case study findings of the MAs, OM and further stakeholders interact on different topics with regard to their expectation towards the MA which is symbolised by the double arrow between OM and further stakeholders. This interaction requires further research as findings in this study are scarce and illustrated by the following quotes:

I start at the top with governance. Supervisory board and BoM. [...] We could also add investors. [...] The task of the BoM is to consider it as a whole. [...] He does it in circles with their OMs by informing themselves “what do you think about it?” “how does it work?” (MA1)

I will call this BoM and division. And the characteristics are more or less given in collaboration with the OM [...]. (MA15)

5.2.5 Influential factors of interaction

This section refers to rSQ4 and presents the findings of the influential factors on the interaction of the PMS characteristics with the role of the MA as revealed based on the MAs' data. Previous sections dealt with the other rSQs (Sections 5.2.2 to 5.2.4) and suggested influential factors which are summarised and complemented here. The factors are contextual factors, culture (Ferreira and Otley, 2009), organisational factors, interpersonal factors and attributes of the person (Katz and Kahn, 1978). Organisational factors being part of the enabling PMS characteristics were primarily dealt with in Section 5.2.3. Only potentially new operationalisations are noted here. In addition, further novel influential factors or dimensions arising from the interview data which are described in this section are then further discussed in Section 6.5. Further exemplary quotes are illustrated in Appendix L.

Ferreira and Otley's (2009) PMS framework suggests two contingent factors or influencing factors, culture and context (see Figure 2.2). When looking at their framework and the influential factors, these aspects on the third level of the extended PMS framework still merit further analysis and operationalisation. This is due to the fact that Ferreira and Otley (2009, p. 277) intentionally left them unexplored because they claim that they focused their framework on a descriptive mechanism not focusing on the relationship with external circumstances. Based on the interview data, culture refers not only to national culture but also to organisational culture. According to the MAs, the following aspects of culture influence the interaction of the characteristics of a PMS with the role of the MA – the attitude towards work and responsibility of employees, interdisciplinary thinking or spirit (see quote of MA1 below), the acceptance of transparency by the OM, living a discussion culture (see quote of MA7 below) and the values of an organisation. This is illustrated by the following exemplary quotes talking about the need for interdisciplinarity and transparency:

And it is very important for us to collaborate across organisations. [...] We live in very strong bubbles or boxes. (MA1)

That everybody knows how it actually interacts. [...] So with transparency you manage to enhance the discussion culture. [...] For me it is mainly this functional view, the own interest from the function, why it clashes. As already mentioned we try to [...] connect the business case and business plan view [...]. (MA7)

Context as the second influential factor is described by the MAs as including internationalisation, economic situation of the company, impact of digitalisation or new technologies, legal requirements and sector of activity or business model. The economic situation as well as the sector of activity are explicitly mentioned as follows:

It also depends on the success of the company. I mean our company has been successful for the last 10, 15 years. (MA2)

It's a very complex market that we have and also the business model. (MA11)

Indications for the surrounding factors of the role episode model (Katz and Kahn, 1978) can also be found in the study, i.e. attributes of the person, interpersonal factors and an additional aspect of organisational factors. This is illustrated by several findings and further fosters the use of the updated role episode model (see Figure 5.1) in this context. According to the MAs' data, attributes of the person comprise experience, maturity, standing, personality, mindset, qualification, motivation, stress resistance, non-embarrassment, curiosity and openness. Personality or experience are illustrated by the following quotes:

These guys were really stupid. [...] The only thing they knew was Excel. [...] This was their right to exist. (MA1)

You will never be the same MA at 20 compared with 40 [years]. (MA3)

Based on the MAs' interview data, interpersonal factors comprise mutual understanding and acceptance, mutual confidence and a discussion culture on equal terms. Mutual understanding and acceptance are illuminated by the following quote:

We currently still have major challenges to overcome. Even if we understand each other very well on an interpersonal level. (MA14)

A further aspect of influential organisational factors revealed from the data is resources. Based on the MAs' data, this factor mainly covers human resources, time resources (i.e. prioritisation), information resources (including IT systems) and implicitly, monetary resources. The following exemplary quotes illustrate the significance of this aspect:

Then we lack in resources, with regard to information as well as time. (MA13)

There is a gap in relation to the information that is also available. (MA16)

Based on the organisational factor of resources, a further dimension of influential factors arises from the MAs' interview data – an enabling or blocking impact on interaction. Four enabling factors are identified from the data. First, a substantial gap is considered as one important influential factor. The gap can concern tools or concepts modelling the future of an organisation. This gap of appropriate tools for simulation planning and decision-orientation is considered of interest for the organisation where the MA can take initiative and come up with new ideas (role-making – see Section 3.2). This gap and initiative of the MA to fill the gap, can be considered a starting point and influential factor for the interaction of the PMS characteristics with the role of the MA. This is illustrated by the following quotes:

Where I have liberties is with regard to the future. There are no really good systems [...]. And this is where the creative leeway is. (MA4)

We developed models in Excel where you simulate within a cost centre group where you have for example five electricians to spare [...] and where we discussed this result with the other departments in the context of the operative and strategic planning. Who [...] needs such a qualification profile and who could take them over, so what would be the career destination? This is what we actually started very early and it developed over time. (MA14)

A second gap concerned a process-related gap of the organisation which is considered relevant by the OM. Based on this revealed gap, the MA initiates the role-making process and thus influences the PMS characteristics that influence back on the role of the MA. This process is reflected by the following quotes:

A MA is always a driver if there are major gaps. Then the MA must be a driver. (MA13)

I mean they [OMs] saw a value. I mean this is why we built that thing for them. And we [MAs] also saw the value of the information. (MA16)

Further enabling factors of role-making of the MA and the interaction of the PMS characteristics with the role of the MA are timing aspects of the PMS. This concerns

both the timing of the implementation of the PMS, and the timing of the use. Both are important to enable role-making of the MA as a start of the interaction. The timing of the implementation is illustrated by the following quote:

Timing is also important. It is the main point that field is harrowed and ploughed. Then you can do everything. (MA1)

A further enabling factor for role-making of the MA is the aspect of engagement of third parties. Involving the OMs in particular makes them support the shaping of the PMS and increases acceptance. This leads to a higher role consensus in the interaction of the PMS characteristics with the role of the MA. This engagement is represented by the following quote:

I also involved people around me that somehow needed the information etc. We made like a bigger case of this. So of course we increased the acceptance. (MA16)

The last enabling influential factor of role-making revealed by the MAs' data is the inner motivation of the MA combined with future job perspectives considered by the MA. According to the MAs' data, the inner motivation of the MA positively shapes the role and thus enables role consensus and leads to interaction. This is illustrated by the following quote:

And for me, if this step is cancelled [manual reporting], the MA has much more time to use the MIS and to check: are we on track, is the strategy fine, where do we need measures [...]? If you take away the current operative activity of the MA [...] he needs to have a future perspective. And this is what it is. (MA3)

On the other hand, there are also blocking factors of role-making – thus basing the interaction of the characteristics of a PMS with the role of the MA on the basis of role conflict. This is the case for the influential factor of lack of resources, which can be due to lacking or contradictory prioritisations or a back-office reduction. This is represented by the quotes below:

We don't have much time to think strategically because there are so many [...] diverse operative tasks. (MA2)

We will work on a shared service idea [...] to have more capacity [...]. (MA12)

This lack of resources can also refer to a lack of information or resources for IT systems as explained in the following quotes:

Then we lack in resources, with regard to information as well as time. (MA13)

There is a gap in relation to the information also that is available [meaning: there is a gap with regard to the availability of information]. (MA16)

A further influential factor blocking role-making and thus basing the interaction of the characteristics of a PMS with the role of the MA is a high division of labour. The mutual dependencies of departments and the high division of labour can lead to “box thinking” and role conflict. It prevents from thinking more globally or from having the liberties of implementing quick and easily helpful PMS aspects. This factor is represented by the following quote:

The issue is that I am not all alone. [...] But others are dependent on me and I depend on them. (MA6)

All these factors together with the enabling and blocking dimensions are considered influential factors from an MA’s point of view. The next section summarises the OM’s view on the four rSQs.

5.3 The OM’s view

5.3.1 Introduction

This section summarises the within-case analysis for the case of the OM’s based on the structure of the four rSQs. The structure is identical to within-case analysis for the MAs (see Section 5.2.1). Again, all the quotes given in this section are merely exemplary quotes and further examples can be found in Appendix F for rSQ1, Appendix G for rSQ2, Appendix H for rSQ3 and Appendix L for rSQ4.

5.3.2 Perceptions on roles of MAs

This section analyses the findings with regard to rSQ1 and based on the OM’s view. Before looking at the findings of the OM’s, it needs to be stressed that there is little non-accounting literature on the roles or activities of the MA. However, several studies in

accounting literature on roles of the MA include MAs' and OM's views (Byrne and Pierce, 2007; Goretzki, 2012; Lambert and Sponem, 2012). Analysing this accounting literature, OM's views appear to be an indistinguishable part of the existing accounting research. Thus, a discussion of the findings expressed by OM's is possible in the light of the indistinguishable views of both groups in the accounting literature.

Similarly to the MAs' view, the OM's view is analysed based on the activities following Järvenpää (2007) and based on "how" the activities are performed. In line with the MAs, all of the OM's involved consider providing information and reporting as a common key task of the MA's activity. Interestingly, three OM's explicitly regret the high reporting share of their management accounting departments and would appreciate a decrease of top-level reporting in favour of more active steering and supporting activities. OM15 explicitly states

[...] that this [management accounting activity] is more reporting than controlling or support of the operative [departments]. [...] This is due to HQ. I think that we use 80% of our time just to report figures to the hierarchy.

According to OM13,

[...] management accounting tasks are rather reporting-oriented [...] [and] mainly tasks from Italy [i.e. HQ] are processed here.

OM11 describes how the management accounting department mainly prepares "reports for the shareholders and the BoM" and that the reports are not sufficiently detailed in order for a country manager to steer the business. From a global OM's perspective, reporting and providing information represents the *scorekeeping function* of the MA described by Järvenpää (2007) and thus supports the body of "scorekeeping" literature from an OM's point of view.

According to some of the OM's interviewed, another activity is planning and forecasting as the following quote illustrates:

One big field [of activity of the MA] is planning. [...] Operative planning, budget planning and strategic planning. For the budget planning we coordinate very closely. What are the assumptions? [...] I see myself in the same boat as Ms MA9.
(OM9)

Some other OMs mention planning implicitly, talking about targets or variance analysis, while some do not even mention planning at all. Supporting quotes can be found in Appendix F with OM12 and OM15. Regarding the “internal control” activity for pricing issues OM2, 6 and 9 accept the approval process but find it partially too slow and too bureaucratic (OM9). In order to gain efficiency and speed, systems have been introduced in order to make the process more standardised and transparent. In line with the literature, this activity can be attributed to the *controlling function* of the MA (Järvenpää, 2007) together with the planning activity. Indications of this activity are fewer though than for the scorekeeping function.

Based on the arguments of several OMs, the MAs’ analyses are of major importance for general business support, holistic decision-making and steering of the business which is illustrated by the following quotes:

All that concerns strategy implementation, project kick-offs, profitability of projects, project stop criteria, location decisions, TCO decisions ... The MA is everywhere. [...] The MA is a strong support on an operational level and a strong support for strategy implementation. (OM8)

And they [the MAs] are more in the process to link the normal activities of the P&L with the products and to have the link [...] cause and effect. [...] They [the MAs] are supporting [...] the mind in the future and anticipate what can happen. (OM10)

This support may concern a function (e.g. operations OM5, OM12, OM14) or a business field like a BU or division (OM1, OM3, OM4, OM7, OM8, OM9, OM15). Some OMs describe that there are projects or targets, that activities of the MAs are about to change with a stronger focus on the support of decision-making and strategy execution. This activity can be categorised as *business support function* (Järvenpää, 2007). In line with the MAs, the business support function is mostly performed in addition to the scorekeeping function and thus complementary (Chang, Ittner and Paz, 2014). On the other hand, the following comments illustrate that some OMs even complain that the MA does not sufficiently perform more value-adding tasks, “steering is impossible like that” (OM13), “basically I do not have a steering tool. I do not like that. I would even take the time to design one myself” (OM15). To compensate for this lack of steering, two of the three concerned OMs possess additional sales planning and

steering departments who were put as an interface between the MA and the OM to avoid the OMs receiving questions without added value for the operative business (see OM11) and to support the business and steering for the OM (see OM11).

If you ask a key account manager what management accounting does, they do not even know. (OM13)

OM15 comments that

[...] virtually speaking we have more work [with the reporting/management accounting] than it facilitates our work.

However, OM15 compensates for the lack of steering support by individually influencing the MA in charge and by partly generating the steering-relevant information on his own. Following the definition of Friedman and Lyne (1997, p. 19), in these very few cases MAs appear to take the role of the classical bean-counter. Thus – according to these OMs – the scorekeeping function is considered contradictory to a business support function due to e.g. time reasons, organisational reasons or further individual reasons.

In addition to *what* activities MAs are performing, the interviewed OMs also talk about *how* the activities are performed. In IT system terms, some of the OMs suggest a strong claim with regard to data analysis and automation (OM1, OM3, OM12, OM13, OM14). Another tool that appears to be crucial for MAs is Excel where the use of “special formulas” as well as databases made OM5 come up with a nickname “Excel acrobat” or “Excel hero” for the MA. OM5 comments that a “MA without Excel is like a double amputee” which reflects the strong link that is made between the MA’s work and the systems on which the MA bases the analyses. Behaviour-wise, several of the interviewed OMs also stress the discussion “on equal terms” as an important character trait of an MA. All of these “hows” can be attributed to the three roles of the MA, even if tool issues mostly concern the scorekeeping role and discussion “on equal terms” mostly concerns the business supporting role.

The above findings of the OM view, support the existing body of literature on the MA’s roles in terms of a dichotomy of roles (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013). The roles of scorekeeping and business support find strong support in the study data of the

OMs. The controlling function shows little support and could be attributed to the scorekeeping function in the eyes of the OMs, as this function does not appear to add value to the operative business. Additionally, the OMs' view adds to the discourse of roles of being both complementary and exclusive (Chang, Ittner and Paz, 2014) as scorekeeping and business support are considered complementary by the majority of the OMs whereas three OMs explicitly appear to consider the functions as more exclusive. The latter OMs consider it more a matter of prioritisation to do business support or scorekeeping. These OMs tend to want more business support and stress the value-add of the MA's activities (OM15). In order to cope with this exclusivity, OM11 and OM13 compensated their need by the installation of an additional sales support department which fulfils the business support function for the operative department and answers the reporting questions of the MAs.

5.3.3 Perceptions on key characteristics of a PMS

This section refers to rSQ2 and operationalises and amends Ferreira and Otley's (2009) core and enabling characteristics based on the findings of the OMs. This is necessary in order to prepare for the answers to the main rSQ3 and 4. Table 5.2 summarises the core characteristics represented in the study data of the OMs, a basic reference to literature and exemplary quotes.

	Literature (Ferreira and Otley, 2009)	Support/Further operationalisation by OMs	Exemplary quotes OMs
1) Vision/Mission	<ul style="list-style-type: none"> - Vision: desired future state (Johnson, Scholes and Whittington, 2008) - Mission: overriding purpose of organisation in line with values / expectations of stakeholders - General objective: how organisational values are established / communicated 	<ul style="list-style-type: none"> - Implicitly mentioned by OM8 - Mission/vision available through secondary data; 	It helps [...] to bring up the really relevant things with the strategy map and to omit many things. (OM8)
2) KSFs	<ul style="list-style-type: none"> - Truly critical to long term competitive success (Thompson and Strickland, 2003) - KSF are operationalisation of vision and mission 	<ul style="list-style-type: none"> - KSFs are more frequently explicitly stated than vision / mission (OM4,OM5,OM8, OM9) - Supports that KSFs are operationalisation of vision and mission 	We have our magical triangle [...]. On one side we have costs which are our efficiency indicators, productivities etc. Then we have a second column which is supply availability. [...] And the third topic is quality. We think in terms of our triangle which has been heard and seen a hundred thousand times by everybody. (OM5)
3) Strategies and plans	<ul style="list-style-type: none"> - Translate strategic goals into operating goals (Chenhall, 2003) - Generation: top-down and/or bottom-up - Empowerment and communication added vs Otley (1999) 	<ul style="list-style-type: none"> - Supports translation of goals from strategy to operating goals - Top-down and bottom-up generation more frequently mentioned with target setting and not together with strategies and plans - Communication/empowerment (in terms of wider involvement) especially lived with lean (OM5, OM14) and BSC (OM8) 	I have a long-term planning [...]. This is what I can compare to the strategy. [...] I do my business plan now, then I get a [result] target out of the business plan and from this I can derive [...] fixed costs, value add etc. as targets. This means if I add up the components I should come up with the result again. (OM4)
4) Key performance measures	<ul style="list-style-type: none"> - Strongly linked back to strategy and part of implementation (Johnson, Scholes and Whittington, 2008) - Restrain number of key measures in order to balance impact 	<ul style="list-style-type: none"> - Supports idea of indicators linked back to strategy - <i>Further operationalisation: discussion about milestone and result control, bindingness of measures (OM3)</i> 	[...] Classical pyramid. At the top I have my EBIT and below [...] I need to take care that I still have KPI and not only PI. [...] we had a very comprehensive strategy process [...]. We have two logics. One is implementation control, the classical milestone tracking. And then we do result control. (OM3)
5) Target setting	<ul style="list-style-type: none"> - Tension: desired vs. feasible (Otley, 1999) - Financial vs non-financial measures - Targets 80-90 percent achievable (Merchant and Manzoni, 1989) - Benchmarks provide legitimacy 	<ul style="list-style-type: none"> - <i>Target setting mainly with financial measures with three approaches: Mainly strategy driven process, less budget driven and mixed</i> - Focus on financial measures (OM2); non-financial (OM8) - Top-down process not appreciated (OM15 against non-involvement); rest of processes appear to be more mixed (first bottom-up and then top-down) - Ext. Benchmark only used as best practice (OM1) - Few evidence on achievability (OM1, OM15) 	[...] Our target is always what is feasible and we feel emotionally comfortable if we can say that we overachieved by +5% or +2% or whatever. This means that we are above plan – this is what we like. [...] What is always an awkward process is the arrival of the top-down targets. [...] In an area of management accountants and CFOs we always have such periods of bazar negotiations. This is how it works everywhere. I am an engineer – I don't like this game. But I play the game. [...] It always reminds me of collective bargaining. (OM1)
6) Performance evaluation	<ul style="list-style-type: none"> - Follow up of individual, group or organisational performance - Objective, subjective, mixture - Relative performance evaluation (RPE) as alternative approach 	<ul style="list-style-type: none"> Basic distinction: - Individual performance - Group performance - Organisational performance => trend to mutualise performance evaluation - Domination of mixture of objective and subjective performance evaluation (some companies play it more openly OM9) - RPE: not mentioned - Skills management aligned with performance evaluation (OM2, OM11, OM12, OM16) 	We have a new topic for executives which is [...] eight competencies [...] These are competencies that a manager should possess. Depending on the position on different levels. [...] A target profile is determined. And the actual profile is compared [...] If there are gaps we need to find measures based on a tool kit [...] And on employee level, we have the normal performance appraisal discussions and qualification discussions where we try to trim the employees in the sense of the organisation. (OM12)
7) Reward systems	<ul style="list-style-type: none"> - Recognition, financial reward, promotion - Target: align personal goals with organisation (Hopwood, 1972) - Basic requirement for impact of reward on performance: skill management (Bonner and Sprinkle, 2002) - Group reward based on collective achievement 	<ul style="list-style-type: none"> - Financial reward: (+) almost all => global financial targets = trend - Non-financial reward: Considered very important but mixed situations (OM4 no appreciation) - Promotion only OM16 - In line with literature for alignment - Group reward not explicitly focused; further aspects: townhall meetings 	Approximately eight times a year I organise team breakfasts with the blue collars. All kinds of questions can be asked and the current status is presented. This is where current topics emerge from the shopfloor. The alignment with my level is very important. [...] The most important thing is personal appreciation face to face. (OM14)

Table 5.2: Overview table of core PMS characteristics from an OM's view

In addition to the core characteristics of a PMS given in Table 5.2, five enabling characteristics can be found in the study data of the OMs. These overall characteristics are in line with the MAs' findings (see Section 5.2.3) and are detailed here. In line with the MAs, the characteristic of organisation structure is switched from the core to the enabling characteristics and renamed as *organisational factors*. It appears to be mentioned by the OMs more as a circumstantial characteristic as illustrated by the following quote:

An organisation can support, but it cannot replace if there are no precise ideas about certain [...] responsibilities. [...] [We structure our business] with job descriptions and not with boxes and organisational units. [...] This has the soft factor that people do not stay within their boxes but look for global responsibilities. It is some kind of moral responsibility not to let a colleague down. (OM1)

Also OM15 mentions the corporate group as an enabling factor for their performance management, e.g. when he talks about the different SAP systems and the heterogeneity of the group. So interestingly, the OMs of the study appear to consider the organisation more as an influential or enabling factor of a PMS than as a core characteristic. Also, organisation is rather considered in a wider sense (hierarchies, products – see Section 3.2.5) and thus as an organisational factor than being restricted to an organisation structure. This circumstantial meaning is reflected by OM1 calling the organisation a support and OM10 a flat organisation that enables responsibilities. Thus, the OMs' study data reveal organisational factors to be more attributed to the second level of Ferreira and Otley's (2009) framework (i.e. the inner circle in Figure 2.2) than to the core level. This may develop a slightly modified framework of a PMS with modified prioritisations in comparison to the model advocated by Ferreira and Otley (2009). For organisational factors, simplicity and complexity can be distinguished as basic organisational hierarchy. According to OM10, "more there is organisation, more there is confusion". Thus, organisational simplicity appears to be necessary for organisation 10 in order to facilitate the reorganisation of the whole PMS.

This simplicity is also advocated by OM10 for the next enabling characteristic, *information flows (systems and networks) and their efficiency*. The idea of information flows is illuminated by the following quotes of the OMs:

Thus it is important for me to have a simple indicator where the difference is quickly explainable: that I can traduce a figure very quickly in a physical effect. And then I need to conclude: How can I modify this physical effect that prevents me currently from reaching my target. [...] The other thing is that you can celebrate success with shop-floor management¹¹ [...] if you over-fulfil or reach your target. (OM4)

Around 2008 we introduced SQCDP¹² as a cascade. The idea is that a healthy process develops a healthy result. The idea is to have a PMS directly on the production line [...]. Each morning the teams meet on the production line, twice a week the board is filled [and discussed] with the head of production, once a week the board is filled [and discussed] with the plant responsible and once a fortnight with the operations manager [of the division]. [...] Everything is standardised and this is how poor indicators and topics also end up on the board. (OM14)

Except from the OMs working with lean production and lean management methods (OM4, OM5, OM14), the information flows represented in the study data of the OMs are limited to simple corrective management which means measures to close a target gap or the simple improvement of a process. In line with the MAs, only the daily closed loop or feed forward information flows of lean management on the shop-floor permit the organisation to learn continuously. The study data of the OMs suggest that the information flows and networks partly determine or enable the use of the PMS framework which is also in line with Ferreira and Otley (2009, p. 274).

Tool-wise, the use of a more automated MIS with options to use big data analytics applications and with integrated and flexible planning modules or even the integration of non-financial data are still not implemented as shown by the following quote:

Big data is missing. We have data everywhere. There are many available figures with which we could simulate the future. [...] Overall I think that processes are like fashion: flares always come back. So the team changes, the management changes and the learning process restarts. [...] This is not efficient [...] and big data could help with regard to the future. (OM14)

¹¹ Shop-floor management is a method of lean management which improves cross-hierarchical communication and which works on continuous improvement of productivity (Peters, 2017).

¹² SQCDP is a method of lean management based on daily communication and process confirmation. It stands for safety, quality, cost, delivery, people (Martínez-Juradoa, Moyano-Fuentesa and Jerez-Gómez, 2014).

Such an automated information system as an enabling IT system, is talked about by many of the OMs but is not yet in place in any of the interviewed organisations. This means also that the integration of non-financial data or the integration of a more global PMS into an automated system appears to only be a second step or even not targeted thus far. This will also depend on the potential options to convert the total PMS into an automated IT system. With regard to the information structure of this automated IT system, the requirements appear to be derived from the good availability of data. A broad information scope, timely availability on demand, different aggregation and interaction levels, as well as total availability of details and a good orientation (through graphics for example) appear to be the most important criteria:

I would always like to have my target value, an actual value and an evaluation if it is good or bad. [...] I would like to have daily updates. [...] I would like to have it graphically. And the chance [...] to drill down to the bookings. (OM3)

In line with the MAs, this leads to the complementary characteristic of efficiency of information flows claimed by the OMs. Due to the importance of the efficiency of the new IT options, Ferreira and Otley's (2009) characteristic is slightly modified from information flows, systems and networks to information flows and their efficiency.

Another activity to enable information flows are organised discussions or meetings. This is illustrated by the following quote:

[...] We do the monthly cost reviews here. [...] We meet here in production. [...] And if we manage together to agree on a few comprehensible facts [...] to look at [...]. Then I think that it is a useful and important supplement. (OM12)

Formal or informal meetings constitute information networks which are part of the information system. Even if not explicitly mentioned in the literature, they can be considered as an integral component of the enabling characteristics. Also informal networks of individuals are an integral part of the information system:

We think in our triangle. Everybody saw and heard it a 100,000 times. [...] We have a T-Shirt [...] [for the shop-floor workers] with a triangle. And it is cost, quality and delivery. (OM5)

And mentoring is a network that has been introduced at that time. (OM16)

Consequently, informal networks appear to be an important factor of information systems for some of the OMs as also stated by literature (Ferreira and Otley, 2009, p. 274).

Another enabling characteristic is the *PMSs use* (see Footnote 8). Even if the use is as diverse as the PMS designs or frameworks used among the OMs of the study, it can be clustered into more stable formal systems of measurement and into more learning-oriented and future-oriented systems. The formal use is illustrated as following:

The management accounting team creates monthly reports for all the countries. So that we can check the performance of certain projects or for the countries. (OM11)

The more learning-oriented or future-oriented use is represented by the following quote:

Our efficiency programme [...] that measures daily what the performance is of our [shop-floor] employees based on our boards, shop-floor management etc. [...]. We discuss it daily with every shop-floor employee: how was yesterday? How many pieces were produced, what was the target, what was the actual and how was the total efficiency? [...] We track this indicator daily. And people start thinking: oh I have two too many today – what shall I do with them? [...] This is how affected people are turned into parties involved. (OM5)

There is also a mixed example using formal mechanisms as well as learning orientation:

It is not the case, [...] that we cannot live without this tool [BSC] but we use it situationally. And this is how we experienced all the variants. Because first of all you are enthusiastic. Then you bring all your actions into the tool, then they are not really updated or there are many shifts in the projects [...]. So you really need to put a lot of effort into the regular update. (OM8)

In line with the MAs, the study examples above suggest that the PMSs use also comes as a mixed use and not only in pure variants.

A further enabling characteristic of a PMS is *PMSs change* (see Footnote 9) with its antecedents and consequences. This is illustrated in the study data of the OMs by for example the following quote:

A few years ago we were very enthusiastic, we have been working with EFQM¹³ like dogs. [...] And we have been spending capacity without end. The topic does not appear to be as important any more. That's a typical PMS, even a very sophisticated one. But it requires discipline. [...] At the end the system degenerated by counting points. [...] The EFQM was transformed to a simple performance system by measuring the performance of the points. (OM4)

This example appears to be the most extreme example of change among the OMs. There are also more technology-based changes which target an efficient information system as illustrated by the following quote:

Basically I dream of a classical cockpit. I switch on my computer and I see where I stand in my total value chain. And if it is a good system it tells me where to look first, traffic light logic. [...] It does not exist yet. We have various reports. [...] I could look at all the data manually but I don't want to. We are working on this issue together with my MA. (OM3)

The following quote does not illustrate such fundamental changes, but continuous changes with regard to the contents or frequency of the running PMS:

We have a strategy map and a BSC. And I am discussing with [the MA]: On which level do we follow-up actions in our BSC? Against which KPIs do we measure? How do we do this? We had periods where we worked on a very detailed level. Currently we are in a period where we summarise. (OM8)

In line with the MAs, the study data of the OMs represent different levels of change of a PMS. In contrast to the MAs, one of the OMs explicitly mentions a lag of rate of change (Ferreira and Otley, 2009, p. 275) and a potential incoherence among the characteristics of a PMS based on the employees not being able to follow. This is illustrated by the following quote:

Honestly, we change our processes so frequently that you do not have the time [...] to improve as you are already in a new process. [...]. But [...] people do hardly follow: is it a new one, is it an old one, is it what we did? [...] I always say: there is one constant – and it is change. [...] It has [...] advantages. But it has inconveniences because people do not follow that quickly. (OM16)

¹³ EFQM: European Foundation for Quality Management. Consulting-based holistic PMS based on five enabler and four result criteria (EFQM, 2018).

Overall, the study data of the OMs support a more reactive change of the PMS based on the examples given above.

The last of the enabling characteristics is *strength and coherence* of the elements of the PMS. This means that the system or framework in total is greater than the sum of its parts. The following quote of the MAs provides an indication with regard to various levels of coherence:

And we just implemented shop-floor step three. This is where we aggregate the data once a week. And this is where my leadership team meets. (OM5)

As also further quotes suggest (see Appendix G), especially organisations 5, 8 and 14 appear to show a special coherence. Organisation 5 and 14 with regard to the coherence of the lean system within the production area and organisation 8 with regard to the use of the BSC throughout the company. Even if Ferreira (2002) states that control failures can happen if there is no fit of the single parts and that mismatches can be created, organisation 10 for example explicitly implemented a less formal coherence with a strong definition and commitment of the top-level and individual freedom for the responsible managers below to get there. According to OM10, this might be due to the worldwide expansion of the group and to the “change in generation”. “Guys that are 18 to 23 years old find [it] sexy [...] to do what [they] love.”

In addition, the study data of the OMs suggest that there is only one organisation (8) which appears to use the BSC as a global steering approach and as a real system throughout the organisation. The EFQM system in organisation 4 appears to be abandoned due to partial misuse and a lack of discipline (see OM4 quote for PMSs change for both). Further systems, like the lean production system, can only be found within one functional area, which in the underlying case is the production department. Looking at the whole study data of the OMs, both aspects of frameworks and packages could be found, packages being the more frequent approach for various reasons. Interestingly, both packages and frameworks possess Ferreira and Otley's (2009) characteristics of a PMS framework with the main distinguishable issue being the existence or non-existence of coherence of its elements.

To conclude on enabling characteristics, the study data of the OMs contain a complementary characteristic which cannot be attributed to one of the previous characteristics: the *attributes of a person*.

In my view the employee is missing. The person himself [...]. How do we promote the single employees and how do we appoint the single employee properly? How do we need to organise personal development to have the right people in the right position with the right skills? [...] It should not be forgotten [...] to integrate the motivation and the energy of the people into the whole. (OM12)

Change management is always about people. [...] In our functional area we have an academy. In order to have a process what they need to learn for the onboarding. [...] And the employee development process was developed in order to find out where the employees would like to develop in the future. (OM16)

As Ferreira and Otley's (2009) PMS characteristics are very system-oriented, they might tend to forget the people who make the characteristics live. In addition, looking at the total framework, it could even be argued that the human being is part of the outer circle together with contextual factors and culture. The latter are not integrated into the narrower framework as Ferreira and Otley (2009, p. 267) view them as "contingent variables that might explain why certain patterns of control are more or less effective, rather than characteristics [...] that need to be incorporated into a description". As the human factor appears to follow the same argumentation, the author also tends to integrate the attributes of the person into the outer circle as a contingent variable.

5.3.4 Interaction of the key characteristics of a PMS with the role of the MA

Before looking at the interaction itself, as argued in Section 5.2.4, it needs to be pointed out that the PMS characteristics can be considered as a surrounding condition. Based on this assumption, this section analyses the OMs' view on the interaction of key characteristics of a PMS (see Section 5.3.3) with the role of the MA (see Section 5.3.2). The updated role episode model based on the OM data is also illustrated in Figure 5.1 and will be described in more detail here with the focus on the process of how these parameters interact from an OM's point of view. Based on the view of the OMs, this section provides the necessary analysis for rSQ3 and further details arrows 1-3 in Figure 5.1. This implies that certain parts are evaluated from a third party view in this section,

i.e. arrows 2a, 2b and 3b in particular. This view is complementary to the MAs' view described in Section 5.2.4. Further exemplary quotes can be found in Appendix H.

First, the core role episode starts when OM's have a role expectation and send a role to the MA who receives it and translates it into role behaviour (arrow 1a). In line with the MAs, examples can be found for controlling and business support activities. Scorekeeping activities are considered as a basic activity but not as an end in itself. Focussing on the process, this is illustrated from an OM's point of view as follows:

The MA has the functional responsibility to prepare the data and to track the planning in a way that it works. [...] And I would see them [OM and MA] on the same level [...] – on equal terms. (OM1)

I need the MA in order to implement things and this is analysis, planning, measurement. Exactly this support which is more than just processing data. [...] To provide services to a production system [...]. This is rather a new role which they [the MAs] voluntarily fulfil meanwhile. (OM5)

So my expectation in front of me first and the team is that the financial part and the commercial part are more and more linked and some touching points that can be meetings and also workshops in the field. (OM10)

Parallel or alternatively at any stage later in the role episode, the OM might directly influence the characteristics of the PMS (arrow 1b) or give feedback to the PMS. This mainly concerns key performance measures and information flows as explained by the following quotes:

Last year we followed a relatively extensive strategy process [...] where we [the after sales team] defined lots of measures for the single functions [...]. [...] We have two logics: [...] one is milestone tracking. [...] And then we also do result control. (OM3)

We organise [...] workshops every Tuesday with up to [...] 40 people and there are also MAs attending [...] and where we treat precise issues or improvement topics. (OM5)

Second, the MA could give feedback to the OM on the one hand (arrow 2a) and to the characteristics of the PMS on the other hand (arrow 2b). Arrows 2a and 2b can run parallel, in a sequence or as alternatives. The feedback of the MA to the OM can be activities directly referring to the role or beyond. It includes information and control, ideas for improvement and commercial levers, preparation of decisions, discussion of target achievement and discussion of planning assumptions. This feedback is partly illustrated by the following quotes (arrow 2a):

And the next step is to come up with ideas what could be improved. And especially what we don't know is, where the levers are. As engineers we do not know that much what the [commercial] impact of each measure is. (OM4)

More the support of the running business to monitor where we are with the target achievement. This is what is strongly done by Mr [MA13]. (OM13)

The following illustrates the direct feedback of the MA into the PMS (arrow 2b). This feedback might concern both core and enabling characteristics. The feedback with regard to core characteristics mainly concerns strategies and plans, key performance measures and target setting. The following quote explains arrow 2b for the core characteristics:

So the management accounting team provides monthly reports for all countries. So that we can check the performance of certain projects or also the total countries [...]. The MA [...] establishes instruments or uses tools that permit us to generate analyses that compare the business and the performance [...]. Also for example to control the performance and the variances to the planning. (OM11)

The feedback, with regard to enabling characteristics, concerns mainly information flows and organisational factors. The following comment illustrates this feedback further:

Management accounting pushes, [...] leads the process, looks for [IT-] systems, did benchmarks, [...] developed the criteria catalogue. The week before last we saw an 80% version of the software that was chosen. All this happens completely under the guidance of management accounting. (OM3)

Before detailing arrows 3a and 3b, the impact of organisational factors needs to be investigated further. Based on the relevant interview data of the OM, potential reorganisation of the structure, leadership structure, economical situation, interdisciplinary integration in the PMS, heterogeneity of organisation and strength of hierarchies determine the main organisational factors. Based on one concept map (OM2), additional organisational factors such as safeguarding occupation and overall degree of capacity utilisation evolved from the data. Based on another concept map (OM4), the sector of activity of the company and the business case were given as further examples of organisational factors. Particularly the factors of leadership structure and interdisciplinary integration are illustrated by the following quotes:

First, [...] leadership models changed. Second, we are in a matrix organisation which is very different in terms of leadership. (OM4)

If you re-orient your production and if there is a project team, please don't forget the MA.[...] He needs to understand production and lean [management] almost as well as you. (OM5)

To conclude on organisational factors, they can be considered influential factors for the total updated role episode model and can thus be considered, together with the other influential factors, in Section 5.3.5 as also depicted in Figure 5.1.

Third, the characteristics of the PMS might act back as surrounding conditions on the OM (arrow 3a). Both core and enabling characteristics of the PMS can be a source of the interaction. The following examples illustrate core characteristics with key performance measures and strategies and plans as a source of interaction:

Yes, I really need to be engaged in the data, I need to read them and I need to say: What do the data mean to me? This is why it is always important [...] that I have simple indicators that the differences are quickly explainable and that I can transfer a figure into a physical effect. And then that I can really deduce: How can I modify this physical effect which prevents me from reaching the target. (OM4)

What we get is a complicated Excel file with 150 VLOOKUPs and links and you are not allowed to touch because otherwise it does not work any more. [...] This is where we are too complicated. [...] I would like to look at certain things real-time. [...] Because I frequently need to take decisions on information current to the day [...]. (OM12)

On the other hand, information flows as main enabling characteristics are also a source of interaction. This is illuminated by the following quotes:

And this is an automatism [...]. Then I receive an email that says: [...] application finished, approved, rejected whatever. (OM6)

But it is a circle. Information is something that turns around like this. It is not purely linear. It is all linked. [...] (OM10)

Alternatively, parallel or in sequence, the characteristics of the PMS might directly impact on the role of the MA (arrow 3b). Again both core and enabling characteristics of the PMS can be a source of the interaction. The following example illustrates the core characteristics as key performance measures and strategies and plans as a source of interaction:

And I think that through [...] the regular strategy process and new evaluation of strategies [...] the role of the MA became even more intensive to deal with [...] market [...], customer and competition [...]. (OM7)

The following quotes also describe information flows as main enabling characteristic as a source of interaction:

And a certain scope of information goes from the system to management accounting. (OM3)

It is our tool. It is very normal to integrate an MA in our process. And to give him the necessary support and training [...] that he can do his job properly in our interest or in the interest of the company. (OM5)

In line with the MAs, the role episode runs in circles and the above described the first round of the role episode model. Also the acceptance of the PMS in the iterating role episode might take some time. This process is represented by the following quotes:

And this is how the model harmonises over a long time and stabilises in a balanced way. (OM2)

This is an ongoing circle. (OM16)

The order of the arrows described above is the order of the classical role episode 1a, 2a and 3a with the described add-ons or alternatives. Alternatively, the order can change and might for example also start with an impetus coming from the MA. A step might also be omitted or not yet be very established. Also the further overall order might slightly change. These changes are illustrated by the following quote by way of example:

The MA recognised a need of sales but also for himself. And he tried to approach the issue proactively and innovatively. [...] I would say it is a permanent exchange among all [parties]. (OM16) [start with 2a]

There are also two OM's who consider the basic role episode 1a, 2a and 3a between OM and MA as core interaction. According to their view, the PMS characteristics are the result of this interaction, or give the frame of interaction. This is supported by the design and description of the respective concept maps. The following quotes illustrate this view:

OK, then I would like to put them [MA, OM] on the same level – this is important for me – on equal terms. And this [the PMS framework] is what I set above all. (OM1)

The MA always gives a frame which is too tight. The operations guy always has the impression: the jacket is too tight. And the MA always says, “we do not have any money for that”. [...] This jacket or this frame must not be so tight that the system collapses. [The PMS characteristics are set above this relationship.] (OM14)

Interestingly, the concept maps designed at the end of the interview showed further interactions which were not obvious from the interview data in the first analysis. From an OM's point of view, especially the impact of further stakeholders was mainly revealed based on concept maps. Again further stakeholders mentioned were HQ and

the board of directors. These stakeholders were basically considered as additional role senders and thus situated parallel to the OM. This is summarised in Figure 5.2. Again, OMs and further stakeholders interact on different requirements of the PMS which is symbolised by the grey double arrow between OMs and further stakeholders. The following quotes from OMs illustrate this interaction:

For OMs we need to distinguish between my function and the functions of the head of sales, head of purchasing. (OM3)

And first of all there is the division management. [...] They formulate the strategy [...]. And then, an operative management takes over. (OM8)

Further research would need to be undertaken to investigate the detailed interaction of the OM with the stakeholders. The next section reveals the causes of interaction or influential factors still from a within-case analysis view based on OMs' data.

5.3.5 Influential factors of interaction

This section analyses the OMs' findings with regard to rSQ4. Based on the previous sections, influential factors are suggested which can also be further supported based on the study data of the OM. Thus, contextual factors, culture (Ferreira and Otley, 2009), organisational factors, interpersonal factors and attributes of the person (Katz and Kahn, 1978) play a role for the interaction. Again, organisational factors are detailed with their potentially new aspects. In addition, further influential factors or dimensions arise from the OMs' interview data which will be described in this section and then further discussed in Section 6.5. Further exemplary quotes can be found in Appendix L.

Starting with Ferreira and Otley's (2009) framework of PMS characteristics, the two influencing factors of culture and context (see Figure 2.2) merit further operationalisation. Also based on the interview data of the OMs, culture does not only refer to national culture but also to organisational culture. According to the OMs, the following aspects of culture influence the interaction of the characteristics of a PMS with the role of the MA: philosophy of the *Controller Akademie*¹⁴, entrepreneurial risk-

¹⁴ The *Controller Akademie*, literally translated as academy for MAs, was founded in 1971 by Deyhle. It offers practice-oriented business trainings on management accounting topics, also for non-MAs (Controller Akademie, no date).

taking, transparency vs. confidentiality and the existence of values of an organisation. This is illustrated by the following exemplary quotes talking about value and entrepreneurial risk-taking:

In our company different doctrines are important: [...] subsidiaries have many liberties, they need to respect corridors [...]. (OM9)

The experience on the free market was missing. We made a risk analysis together: how do I manage these risks? Which mitigations are there. How much result potential is there if I convert risks into chances. (OM14)

Context is described as the second influential factor by the OMs with internationalisation, economic situation of the company, political conditions, legal requirements, competitive situation and sector of activity or business model. The internationalisation and the sector of activity are explicitly mentioned as follows:

We have lots of foreign subsidiaries which are not yet steered in the same format. (OM3)

In my view the MA is too far away in order to have a value-adding discussion with the key account manager. (OM13)

With regard to political and legal requirements as contextual factors, the concept maps developed at the end of the interviews showed a further operationalisation of this aspect. Interestingly, this aspect was developed singularly by one OM and did not find further support within the sample group. OM2 explicitly adds external constraints with political conditions and legal requirements. He illustrates the impact based on an example of a governmental negotiation of environment bonuses for electrified vehicles which are part of their product range. As organisation 2 would take part in the financing of the bonus together with other producers of electrified vehicles, this political decision would also impact on the interaction of the PMS with the role of the MA. These aspects can be subsumed to contextual factors which also impact on the PMS as already mentioned by Ferreira and Otley (see Section 5.3.3).

Also the study data are in line with the surrounding factors of the role episode model (Katz and Kahn, 1978), i.e. attributes of the person, interpersonal factors and further aspects of organisational factors. According to the OMs' data, attributes of the person mainly comprise of personality, curiosity, mindset, experience, discipline and functional

knowledge about cause-effect. Discipline and personality are illustrated by the following quotes:

We already had bad experience with people who only think uni-dimensionally. [...] Honestly speaking, I still do not care about boxes of organisation charts. The decisive point is, which spirit people have who fulfil a function. (OM1)

This [EFQM] is a typical PMS, even a very sophisticated one. But it requires discipline. We hardly manage to maintain one PMS in production: shop-floor management cycle. (OM4)

He is the youngest MA we have ever had. [...] But what he brought was humanness. (OM16)

Based on the OMs' interview data, interpersonal factors mainly encompass mutual understanding and acceptance, mutual confidence and a discussion culture on equal terms. Mutual understanding and discussion on equal terms are illustrated by the following quotes:

For me it is important [...] to approach on equal terms. [...] And it is no one-way street and works [...] in both directions [...]. (OM1)

It was easy, I could already build on understanding and confidence. (OM6)

In line with the MAs, resources are a novel factor within the organisational factors. The following exemplary quotes illustrate the significance of the aspect:

Well the expectancy currently is [...] that we only need half of the management accounting resources. (OM4)

With regard to systems support, we are not so good. [...] We need to say manually: what are the costs of a product [...], and what is the price, OK? This is a lot of effort. [...] And there is this culture: IT costs are bad. (OM9)

Also in line with the MAs, the additional dimension of enabling or blocking impact on interaction can be analysed. The enabling or blocking factors are partly relevant for role-making and partly for role-taking of the MA and thus influence the interaction of the PMS characteristics with the role of the MA. In contrast to the MAs, three enabling factors are solely identified from the data. First, there are timing aspects relevant for the

interaction of the characteristics of the PMS with the role of the MA. This concerns both the timing of the PMS implementation as well as the timing of the PMSs use. The timing of the PMSs use is illustrated by the following quote:

But what do I deduce as measure? Then I need fresh information and need to process it right away, like drinking champagne as long as it is fresh. (OM5)

Also in line with the MAs, a further enabling factor for role-making of the MA is the aspect of engagement of third parties which is suggested by the OMs. Involving the OMs makes them support shaping the PMS and increases the acceptance. This leads to a higher role consensus in the interaction of the PMS characteristics with the role of the MA. This engagement is represented by the following quote:

That the MAs should have interest for operative topics [...]. In any case for example if they want to implement changes or generally want to support the [sales] teams more, they need to involve the sales teams on time. (OM11)

The last enabling influential factor of role-making revealed by the OMs' data is the inner motivation of the MA combined with the future job perspective given to the MA. According to the OMs' data, the inner motivation of the MA positively shapes the role and thus enables role consensus and leads to interaction. This is illustrated by the following quote:

So the MA will also be a guardian of the system, of this big data pool and front-end [...] together with the IT. [...] And there will still be analyses, but more for me and this can support me and my work much better. (OM3)

On the other hand, there are also blocking factors of role-making and thus basing the interaction of the characteristics of a PMS with the role of the MA on the basis of role conflict. This is the case for the influential factor of lack of resources which can be due to monetary restrictions or different prioritisations. This is represented by the quotes below:

What we really have is a limitation of resources: where do we need to do more and how do we manage it overall. (OM8)

In January, a new system was introduced. And now, for example, most of the time is invested in the development of new processes and procedures. And this is how they spend less time on sales. (OM11)

This lack of resources can also refer to a lack of information or resources for IT systems as illuminated in the following quotes:

And we don't have the software because it was not highly focused in the past that it is important. (OM3)

With regard to systems support, we are not so good. [...] We need to say manually: what are the costs of a product [...], and what is the price, OK? This is a lot of effort. [...] And there is this culture: IT costs are bad. (OM9)

In line with the MAs, a further influential factor blocking the interaction of the characteristics of a PMS with the role of the MA is a high division of labour. The mutual dependencies of departments and the division of labour can lead to “box thinking” and role conflict. It prevents thinking more globally or having the liberties of implementing quick and easily helpful PMS aspects. This factor is represented by the following quote:

For example the dealer scorecard is division of labour and not their scope of tasks. (OM9)

The next section summarises the overall chapter of within-case analysis.

5.4 Summary of within-case analysis

Chapter 5 addressed the four rSQs from a within-case view and with the objective of presenting the findings of the case groups. Concerning the role perceptions of the MA (rSQ1), Sections 5.2.2 and 5.3.2 presented a set of codes for each of the three functions of the MA based on the structure of Järvenpää (2007). With regard to key characteristics of a PMS (rSQ2), Sections 5.2.3 and 5.3.3 analysed the main codes based on Ferreira and Otley's (2009) model and complemented it further with more contemporary aspects. Relating to the main rSQs and the interaction of characteristics of a PMS with the role of the MA (rSQ3), Sections 5.2.4 and 5.3.4 described the most salient findings. Then, Sections 5.2.5 and 5.3.5 analysed the study data regarding the influential factors (rSQ4).

Giving an outlook on cross-case analysis in Chapter 6, the findings of this chapter can be summarised based on similarities and differences between the MAs' and the OM's view. The similarities can be concentrated as follows. According to both case groups, MAs define their roles split into the three roles of scorekeeping, controlling and business support (Järvenpää, 2007). Both case groups consider the roles to be rather complementary rather than exclusive. MAs and OM's identify 12 key PMS characteristics, thereof seven core and five enabling characteristics. This structure is based on the framework of Ferreira and Otley (2009) but re-categorises organisation structure as an enabling characteristic and also enlarges the meaning to organisational factors rather than only structure. Also, MAs and OM's add further factors to the contingent or third level of Ferreira and Otley's PMS (see Figure 2.2 and Figure 6.1). According to both case groups, the interaction of the PMS characteristics with the role of the MA is based on six core arrows (1a-3b) of the updated role episode model (see Figure 5.1). Influential factors for the interaction constitute the contingent factors of a PMS with culture and context (Ferreira and Otley, 2009) as well as the surrounding factors of the role episode model with attributes of the person, interpersonal factors and organisational factors (Katz and Kahn, 1978). The additional factor of resources as an organisational factor emerged from the MAs' and OM's data. An additional dimension of enabling and blocking influential factors could be investigated which will be analysed and discussed further in Section 6.5.

On the other hand, the main differences between the two case groups can be summarised as follows. According to the OM's, the role of the MA could be described by value-adding and non-value-adding activities. Thus, OM's could also live with a dichotomy of the role of the MA whereas the MAs tend to be more creative with further distinctions of their role. This point is further discussed in Section 6.2. Another distinction concerns the complementarity of roles of the MA. While MAs agree on the complementarity of the role of the MA, OM15 tentatively suggests, that this complementarity can lead to role conflict and might implicitly stipulate role exclusivity based on the claim for more value-adding activities. A further distinction can be discovered with regard to the influential factors where political and legal factors solely emerged from the OM's data as a contextual factor of interaction. The potential origin for this difference is further discussed in Section 6.5.

Further findings not directly relating to the research objective are that the digitalisation of the management accounting data in the investigated organisations is in its early stages. In addition, none of the participating organisations revealed approaches about shared service reporting factories. This means that traditional activities of the MA still prevail and that a similar study would need to be repeated after this paradigm shift in order to support the findings for the future (Section 5.2.2). Chapter 6 analyses cross-case analysis and discusses the findings relative to existing literature. It thus provides answers to the four rSQs.

CHAPTER SIX: Empirical study – cross-case analysis and discussion

6.1 Introduction

Chapter 5 distilled the answers to rSQ1 to rSQ4 by means of within-case analyses. This chapter articulates the empirical findings described in the previous chapter and enriches them with cross-case analyses – the suggested next-step in multiple case analyses (Section 4.8.4). This chapter serves three purposes. First, the empirical indications described in Chapter 5 is discussed in a more conceptual way and reflected on based on the structured findings of the literature review – explicitly this means in the light of management accounting literature (Byrne and Pierce, 2007; Järvenpää, 2007), management control literature (Ferreira and Otley, 2009) and the role episode model (Katz and Kahn, 1978). Second, cross-case analysis is performed which draws out particular themes that emerge from the cases. Based on within-case analysis, Appendix F to Appendix H and Appendix L summarise the findings from Chapter 5 and permit a structured analysis of cross-case findings. Third, a modified ex-post summary of the Ferreira and Otley (2009) framework will be proposed in light of the empirical data (Figure 6.1). Also, an update of the role episode model in the management accounting context combined with a structured integration of all the influential factors will be introduced (Figure 6.7).

This chapter is organised as follows. The rSQs provide the overall structure for the chapter. Within this structure, a cross-case comparison of the cases (MAs vs. OM) is followed by a potential intra-organisational (i.e. between MA and OM of one organisation) and an inter-organisational comparison (i.e. between the matched pairs of different organisations). The chapter concludes with a summary and discussion of emerging findings.

6.2 Comparative analysis: perceptions on roles of MAs

Based on the literature Section 2.2 and the findings Sections 5.2.2 and 5.3.2, this section compares the MAs' and OM's views on roles of the MA and discusses them in terms of comparing the occupational groups and in terms of an intra-organisational or inter-

organisational comparison. Thus, this section answers the contextual rSQ1 on the roles of the MA. In addition to the activities of the MA, *how* the activities are performed is also analysed. Before looking at the comparative findings, it should be noted that there is little literature discussing the roles or activities of the MA in a comparative way based on the two views used here. As mentioned previously, both views have been analysed in an undistinguishable way in the existing accounting literature (Byrne and Pierce, 2007; Goretzki, 2012; Lambert and Sponem, 2012). Consequently, this section analyses the comparative views of the occupational groups or intra-organisationally and concludes by discussing these views in light of the accounting literature. The quotes stated in this section are some important quotes and further empirical indications on the role perceptions of the MA can be found in Appendix F.

6.2.1 Roles of MAs: MAs' vs. OMs' view

First, the similarities and differences of the *scorekeeping function* (see Section 2.2.1) are presented. It is common to both groups that the majority of the MAs and OMs consider reporting and providing information as one of the main activities of the MA. On the one hand, the majority of the MAs accept the scorekeeping function as an important activity. On the other hand, not all of the OMs agree on the prioritisation by the MAs of the scorekeeping function. Thus, some OMs state that “reporting to the BoM and the shareholders” (OM11) is done at the expense of designing a “steering tool” (OM15) or of working with steering-relevant information (OM11). These diverging prioritisations appear to be a result of the organisational factors, as all three of the organisations 11, 13 and 15 concerned stress a strong stakeholder influence (mature start-up, subsidiary and parent company) with extensive information needs. Interestingly, the respective MAs of the relevant companies consider reporting as their main activity but they do not appear to consider a lack of operative business support. They even appear to accept their activity according to Friedman and Lyne’s (1997, p. 19) bean-counter definition. This is underpinned by the MAs’ statements on unfulfilled expectations of their OMs. The three MAs concerned only talk about the OMs’ claim for “a specifically matched reporting” (MA15), for “delivering certain information in more detail” (MA11) and for “things that the [operative] counterparts would like to have [which] partly we cannot fulfil [...] properly” (MA13). These three statements tentatively suggest that the three MAs feel

the role conflict on the one hand, but they do not entirely capture all the causes of the conflict on the other. The unfulfilled wish for operative steering tools and business support remains unexpressed based on the MAs' comments. According to the role episode model, this role conflict may be solved after a certain amount of role episodes have run (see Figure 5.1).

Second, the similarities and differences of the *controlling function* (see Section 2.2.1), according to Järvenpää (2007), are now presented; controlling meaning budgeting/forecasting and approving price offers. Interestingly, all MAs describe their planning, budgeting and forecasting activities rather extensively. Several MAs stress the length of the budgeting process in commenting on:

[...] two or three months of intensive budgeting (MA5),

[...] we plan for half a year (MA6),

[...] each year [the planning] is different, each year I need to re-design the process (MA10),

[...] in July/August we prepare the sales [...] and from the operations side we were already finished in December (MA12),

[...] first inputs are in June [...] and the target [is] finally only distributed in February (MA16).

This suggests that budgeting and forecasting is a time-consuming activity for the MAs. On the other hand, only six out of 16 OM explicitly note budgeting with only one OM stressing length and complexity. For the rest of the OM, planning and forecasting does not appear to be explicitly valued and is indirectly mentioned via targets or variance analysis. Based on this potential contradiction, one could reason that budgeting is not considered as a value-adding activity for the OM, and that OM do not attribute the same importance to budgeting. As mentioned above for the scorekeeping role, this diverging view could lead to a role conflict which is not yet explicit based on the study data. With regard to the price approval positions, no remarkable cross-case similarities or differences could be analysed.

Third, the similarities and differences of the *business support function* (see Section 2.2.1) are now presented. Both groups consider profitability analysis (e.g. customers, distribution channels), strategic analysis (e.g. business field analysis), decision support (e.g. make or buy, investments, locations, business case), cost driver analysis (e.g. measure tracking, productive hours) and the integration of the MA into steering committees (e.g. daily shop-floor management) part of this support function. In the production area and in a BU, the business support function turns out to be most convincing in this study. As evoked in within-case analysis, some MAs and OMs describe that there are projects of change, which will focus the activities of the MA on the support of decision-making and strategy execution. This could be interpreted as an increasing interest for this function and an increasing importance. For the majority of the participants of both groups, the business support function is performed in addition to the scorekeeping and controlling function which means that MAs tend to play multiple roles at varying degrees and thus roles tend to be complementary rather than exclusive (Chang, Ittner and Paz, 2014). On the other hand, for the business support function the highest unfulfilled expectation is expressed by some OMs with regard to the intensive scorekeeping function of their MAs. This is illustrated by the following quotes:

The majority of the tasks of the team of MAs are for the BoM and the shareholders. And the sales teams, from what I observe in this company, wish to have more support for operative tasks or for strategies and so on. (OM11)

Too little operational support and too much reporting for the BoM. [...] To exaggerate a little bit: it creates more work than it facilitates work. (OM15)

Overall, the potential breadth of activity for business support appears to be the largest among the three functions claimed by Järvenpää (2007) and also the most heterogeneous among MAs and OMs. As a consequence, role exclusivity could potentially gain in importance (replacing role complementarity) for the MA to cope with the variety of expectations and limit potential role conflicts. Another consequence of this variety could be the need for further specialisation of the MA with shared reporting services to give time to the MA for further operative support (see last paragraphs of Section 5.4).

Apart from *what* activities MAs are performing, the interviewed MAs and OMs also talked about *how* the activities are performed. System-wise, some of the MAs and OMs suggest a strong claim with regard to data analysis and automation (e.g. dashboards, MIS, integrated planning tools). Another tool that appears to be crucial for MAs from both views is spreadsheets such as Excel – even if it appears to be a means of calculation for the MAs and almost a *raison d'être* for the OMs – which was expressed by nicknames like “Excel acrobats” (OM5) or “Excel heroes” (OM5). Behaviour-wise, several of the interviewed MAs and OMs stress the discussion “on equal terms” as an important character trait of an MA. All of these “hows” can be attributed to the three roles of the MA, even if tool issues mostly concern the scorekeeping function and discussions “on equal terms” mostly concern the business supporting function.

While change in the activities and projects of the MAs appears to be a constant topic among the MAs, the OMs' view does not stress change to the same extent. Some OMs consider the MA's work to be changing. For example, OM11 comments that “most of the time is invested in order to implement new processes” and OM5 comments “that they still did a lot of tinkering” in order to implement a new profitability tracking. However, the majority of the OMs do not mention change. According to the OMs, change appears to be more dependent on the current business environment than applicable to the MA's work. OM1 deliberately mentions Polaroid cameras and the launch of the iPhone in 2007 as recent indicators of change. The reason for the unnoticed change by third parties might be the type of changes executed by the MAs. The main changes appear to happen with regard to the scorekeeping function of the MA and are more IT system-relevant, as supported by the following comments:

We just implemented Microsoft Dynamics AX as our ERP-system. (MA11)

There will be the introduction of a new general ledger after the Easter holidays [which permits liquidity measuring by division]. (MA15)

This means that changes frequently happen in the background and are thus not transparent to the counter-part of the MA. Further major changes appear to concern the efficiency of planning and budgeting as explained by the following quotes:

We are about to globally implement an integrated planning and simulation tool. (MA13)

With the target business plan [...] the KPIs were reduced [...] with a significant streamlining of the process. (MA4)

We do not have any more budget and ambition but just a target for n+2. (MA10)

These modifications may not be transparent to third parties as they are directly integrated into time schedules, and from a global view, still similar to old processes. These nuances are obvious for those working deeply in the processes like the MAs themselves.

To conclude, a reference to the accounting literature is elaborated. The accounting literature still struggles with discourse with regard to a dichotomy of roles of the MA (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013) versus a more detailed classification of roles of the MA (Kuepper, Weber and Zuend, 1990; Chapman, 1997; Järvenpää, 2009; Lambert and Sponem, 2012). In the light of this discussion, indications can be found that from an MA's point of view, a more detailed classification of the activities appears to be necessary which leads to the broad range of roles elicited in the literature (e.g. historian, watchdog, advisor etc. – see Section 2.2.1). From an OM's point of view, however, the function of the MA can very much be reduced to the dichotomy of non-value-adding and value-adding function. The nuances of the *controlling* function are partly observed by the OMs (see paragraph controlling function above) but not recognised as a value-adding activity which makes it rather superfluous to distinguish. Thus, from an OM's point of view, the budgeting and internal control position activity might be attributed to the scorekeeping function because of its lack of value added. The dichotomy that remains would be a *business support* function and a *scorekeeping* function staying with the terms in use. Thus, this study supports a dichotomy of roles of the MA from an OM's point of view (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013) and a more detailed classification according to Järvenpää (2007) from an MA's point of view.

6.2.2 Roles of MAs: intra-organisational view

In addition to the comparative analysis in Section 6.2.1, the following points arose when analysing the views of the MA and OM from the same organisation (i.e. MA2 vs. OM2

etc.). In contrast to the previous section, this section does not structure the comparison based on the functions (scorekeeping, controlling, business support), but based on role consensus/conflict (see Wiswede, 1977 and Section 3.2.4) between the MA and OM. Thus, the analysis is based on the role episode model and the relationship between the OM as role sender and the MA as focal person as detailed in Figure 5.1. This role consensus/conflict can be related to the three functions but mainly appears to occur in the sample with regard to the weight of the *scorekeeping* or *business support* function. Then, the *how* of the activity is also analysed as previously. Looking at the intra-organisational comparison of the role of the MA, a neutral, a consensual (role consensus) and a non-conforming relationship (role conflict) between MAs and OMs can be observed. The majority of the organisations (2, 6, 7, 11-14, 16) show a rather neutral relationship with regard to the tasks of the MA, meaning there is a mutual acceptance of each other's position:

But this is what we [MA6 and OM6] mutually appreciate: if he says no then I say "OK leave it alone". (OM6)

This neutral relationship does not lead to any further revelatory insights with regard to the activities and role of the MA. Thus, the two other relationships are investigated further. OMs 1, 3, 4, 5, 8 and 10, for example, appear to agree strongly on the tasks of the MA and mutual duties of these tasks. They appear to consent both on an interpersonal as well as at a task level as illustrated by the following comments:

We have shortcomings system-wise but we are moving in the same direction Mr MA1 and myself. (OM1)

It was a common understanding (between OM3 and MA3). (MA3)

This consensus is supported by the tone of the interview when talking about the other party, and partly by the behaviour observed in interactions (e.g. organisations 1, 4, 8, 10). In these organisations, a common view on the function of an MA was observed. Interestingly, the MAs in these organisations performed many activities of business support. The causes of this common sense of the MA's activity appear to be common stakeholder interests (1, 3, 4, 5, 8, 10), a concise idea of steering needs of OM (1, 3, 4, 5, 8, 10), common or similar work philosophies (1, 3, 4, 5, 8) and/or a good interpersonal fit (3, 8). On the other hand, in organisation 15, MA15 and OM15 did not appear to agree on the tasks of the MA. The cause of this role conflict is seen in the

prioritisation done by the “holding company” as expressed by OM15 himself and based on a potential lack of common interests of the current stakeholders:

There is a new CFO. We take the chance and make a proposal what we consider as important.

A particular lack of interpersonal fit was not observed (“we do not have interface problems”, “the collaboration is good” OM15). Also OM15 expresses rather precisely his steering needs whereas the MA stresses she stays with her high level reporting tasks. From an overall perspective, MA15 simply denies or suppresses the OM’s expectations:

I cannot offer a customised solution for everybody. What we can offer is to show [...] how you design layouts in SAP on your own.

Organisation 11 and 13 are not detailed as especially non-conforming, as the OMs coped with the open steering expectations by installing a sales control employee or team. Thus, role conflict could not be observed as organisations 11 and 13 adopted a coping strategy for their organisations instead of solving the role conflict with the existing organisation.

As a consequence, it can be tentatively suggested that stakeholder interests and their prioritisation appear to be the main factor for a common view on the tasks of the MA. This common view supports the MA, as he does not need to cope with role conflicts and can concentrate more thoroughly on the core activities. Further factors based on the role episode model like organisational factors, personal factors and interpersonal factors also affect this relationship. Consequently, this supports the use of the role episode model by Katz and Kahn (1978) in the management accounting context. Both the role-sending function of the OM and stakeholders and the impact of surrounding factors, can be underpinned by the case data. Suggestions for further accounting research have already proposed the application of the role episode model (see Section 3.2.7). The main driver for a common view on the activities for this study appears to be the common prioritisation of stakeholder interests (mainly with regard to the hierarchy in the organisation).

A further difference revealed by the intra-organisational analysis is about *how* the activities are performed. In the previous sections, it was mentioned that the discussion

“on equal terms” is an important factor for both MAs and OMs. However, looking at the intra-organisational match, only MA8 and OM8 appear to stress the “equal terms” aspect with the same importance. The other interviewees talking about “equal terms” are no matched pairs. One potential reason may be that the discussion “on equal terms” is not perceived equally important on both sides and considered as a matter of course and thus not mentioned by one of the interviewees. With regard to the IT system-focus (both Excel and future systems), the use of big data analytics applications and the implementation of dashboards etc. was in most cases mentioned by both interviewees from the same organisation (in matched pairs).

6.2.3 Summary of perceptions on roles of MAs

Based on within-case (Sections 5.2.2 and 5.3.2) and cross-case analysis (Sections 6.2.1 and 6.2.2), the previous sections prepared the answer to the contextual rSQ1, examining what the perceived roles of the MA are. A case comparison view reveals that the OMs’ view of roles of the MA is more closely related to a dichotomy of roles (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013) in the sense of value-adding or non-value-adding activities. On the other hand, the MAs’ view distinguishes at least three functions as advocated by Järvenpää (2007) – with scorekeeping, controlling and business support. Furthermore, it can be observed that the OMs’ view of the MA’s function tends to be more exclusive (Maas and Matějka, 2009) whereas the MAs’ view tends to be more complementary (Chang, Ittner and Paz, 2014). This diverging view may also be an origin of role conflict, even if not explicitly stated. On the other hand, limiting potential role conflicts frees resources for the MA to concentrate on the proper activities. This aspect will be further taken up in Sections 6.4 and 6.5 when analysing the updated role episode model in more detail (see also Figure 6.7). To sum up, Section 6.2 developed the existing body of literature on the roles of the MA in the sense of the comparative analysis of the MAs’ and OMs’ views. It presented potentially new insights on the aspects dichotomy vs. further roles and exclusivity vs. complementarity. It thus answered rSQ1, detailing the perceived roles of the MA. In addition, this section presented further indications toward the application of the role episode model for the role of the MA which will be further

amplified in Sections 6.4 and 6.5. The next section analyses and discusses rSQ2 on the key characteristics of a PMS.

6.3 Comparative analysis: perceptions on key characteristics of a PMS

Based on the literature Section 2.3.4 and Sections 5.2.3 and 5.3.3, this section performs cross-case analyses of the occupational groups as well as inter- and intra-organisationally. Thus, this section answers the contextual rSQ2, examining what the perceived key characteristics of a PMS are. The PMS characteristics are based on Ferreira and Otley's (2009) PMS framework, distinguishing core and enabling characteristics. This section again uses exemplary indications for its arguments. An additional list of quotes underpinning the argumentation and discussion can be found in Appendix G and Appendix I together with the comparative Table 6.1 of the PMS characteristics. As mentioned previously, both views are analysed in an undistinguishable way in the core management control literature (Malmi and Brown, 2008; Ferreira and Otley, 2009). Additionally, management accounting literature analyses parts of the characteristics, for example, budgeting (Hope and Fraser, 2003). Consequently, the following sections analyse the comparative views of the occupational groups or intra-organisationally and conclude by discussing these views in the light of the extant literature. The comparison starts from an overview and then moves on to the more detailed characteristics.

6.3.1 PMS framework overview: MAs' vs. OMs' view

In order to prepare a detailed comparison, an MA's and OM's overview of the amended PMS framework analysed in Sections 5.2.3 and 5.3.3 is necessary. This section presents the two views on the overview and closes with a discussion with regard to the body of literature (Ferreira and Otley, 2009). A detailed comparison of the PMS characteristics will be given in Sections 6.3.2 and 6.3.3.

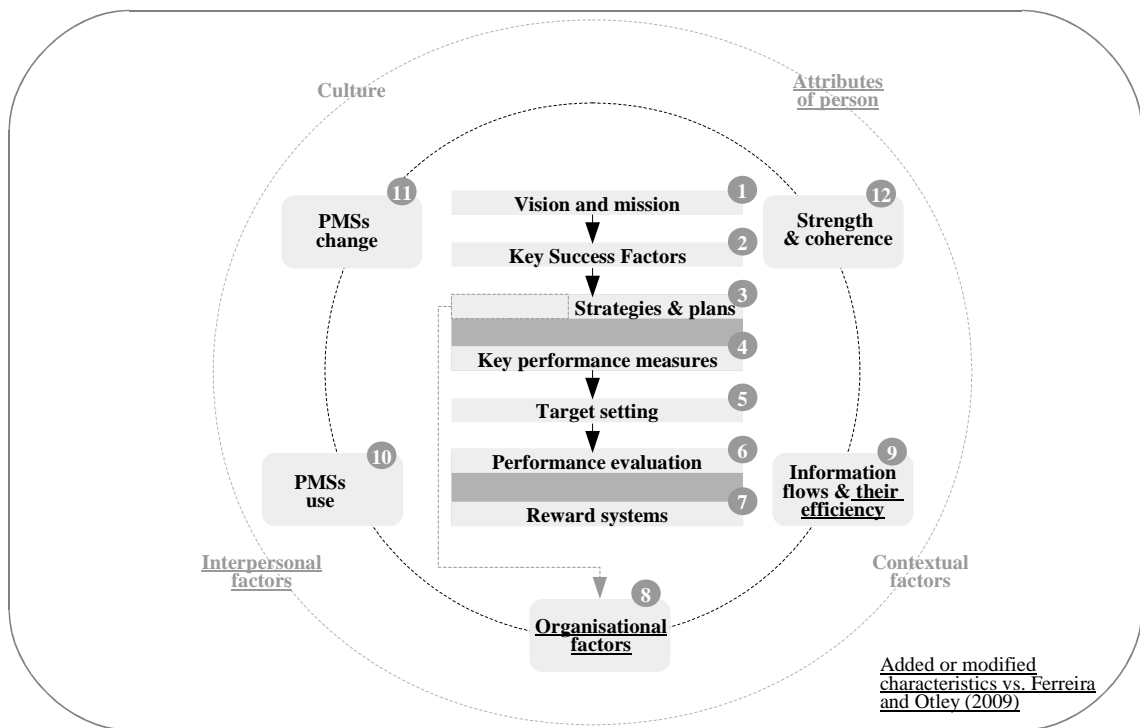


Figure 6.1: Overview of key characteristics of a PMS adapted from Ferreira and Otley (2009, p. 268)

Figure 6.1 summarises the MAs' view of the characteristics of a PMS which is adapted from Ferreira and Otley (2009, p. 268). As detailed in Section 5.2.3, the inner core (numbers 1-7) portrays the core characteristics, the middle circle (numbers 8-12) the enabling characteristics and the outer circle the contingent variables. Apart from the further operationalisation of the existing characteristics from the Ferreira and Otley (2009) framework, the adaptation of the MAs' view is as follows. First, the organisation structure is enlarged to organisational factors and is transferred from core characteristics to enabling characteristics (number 8 is on the middle circle in Figure 6.1). Second, the efficiency aspect of information flows is added to the information flows characteristic (number 9 in Figure 6.1). Third, the attributes of a person and interpersonal factors are added as contingent variables in the outer circle. Fourth, four core characteristics are less distinguishable by the study data and could be considered as two issues instead of four. Strategies and plans are particularly connected to key performance measures. Also, performance evaluation and reward systems are mentioned closely together as suggested in Section 5.2.3 above. Appendix G gives further detailed quotes with regard to the potentially subsumable characteristics. Interestingly, from an overall MA's point of view, MAs talk in more detail about enabling than about core characteristics which

tentatively gives a tendency of importance. This supports Pulakos and O’Leary’s (2011) contention that informal elements of a PMS tend to be more important than formal aspects. The OM’s overall view (see Section 5.3.3 for within-case details) is identical apart from the interpersonal factors not being mentioned by the OM’s.

Comparing the MAs’ and OM’s overall view suggests that the main difference at a high level are interpersonal factors as a contingent variable, which are not mentioned explicitly by the OM’s at all, and solely by one MA. Interestingly, the other two modifications – the transfer of organisational factors and the efficiency aspect of information flows – are an explicit result of both views. The same occurs for the non-distinction of strategies, plans and key performance measures as potentially one characteristic and the performance evaluation and reward system. Thus, from an overall perspective and focusing on the key characteristics, the MAs’ and OM’s views do not appear to show major differences. The only difference lies in the outer circle which is not the focus of rSQ2. This will be investigated further when influential factors are presented in Section 6.5.

Comparing this overview with Ferreira and Otley’s (2009) framework, it suggests three main differences. First, an enlargement of the scope of the characteristic organisation structure to organisational factors as well as an update of information flows with an efficiency aspect is proposed (see Sections 5.2.3 and 5.3.3). In addition, this study differentiates in the categorisation of the organisational factors as enabling instead of core characteristics. The study data of MAs and OM’s clearly describe the organisation as a circumstantial factor with enabling responsibilities etc. (see Sections 5.2.3 and 5.3.3 and Appendix G), whereas core characteristics are formal hard factors of the framework. On the OM side, this circumstantial meaning is reflected by OM1 calling the organisation a support and by OM10 where a flat organisation enables responsibilities. Second, Ferreira and Otley (2009, p. 271) strictly distinguish e.g. strategies and plans and key performance measures, instead of regrouping them like Otley (1999). The author found this split less useful and proposes rather a merger of the characteristics (numbers 3 with 4 and 6 with 7) to derive a more easily manageable framework. Twelve characteristics are numerous and Ferreira and Otley want the framework to provide a useful research tool (2009, p. 263). Third, Ferreira and Otley

(2009) only name culture and contextual factors as contingent variables and do not mention interpersonal factors and attributes of the person. This can be explained by the fact – similar to the underlying research – that contingent variables are not the core focus of their research (Ferreira and Otley, 2009, p. 267). The contingent variables are mainly mentioned in order to allude to their existence and in order to facilitate a potential enlargement of their framework.

6.3.2 Key characteristics of a PMS: MAs' vs. OMs' view

This section analyses the similarities and differences in the operationalisation of the core characteristics of a PMS. The group of MAs is compared with the group of OMs (Appendix I to Appendix J and Tables 5.1, 5.2 and 6.1) and then linked with literature mainly represented by Ferreira and Otley's (2009) framework. Starting with the *vision and mission*, it is common to both cases that the majority of both do not mention vision and mission at all. However, the existence of such a vision and mission can be derived from the internet, company magazines or bulletins observed by the researcher. Only three interviewees (OM8, MA10 and OM10) explicitly mentioned their organisation's vision and mission. This means that a vision and mission exists across all the interviewed organisations, but more as an implicit characteristic. *KSFs* are the first level of operationalisation of the vision and mission and are referred to by some interviewees of both cases. As any indications remain scarce across both cases, it could be concluded that the majority do not have an explicit link to vision and mission. Another reason could be that the link is not transparent to the interviewees and thus not mentioned. It can also be observed that *KSFs* are based on something visual like a cottage (MA13), a T-shirt (OM5) or a strategy map (OM8). Overall, Ferreira and Otley's (2009) two first core characteristics are more implicitly and tentatively supported by the data, the vision and mission even being primarily underpinned by secondary data which makes a further operationalisation based on the study data difficult, even if the overall existence of these core characteristics cannot be denied.

Strategies and plans as well as *key performance measures* are further core characteristics which are strongly highlighted by the study data of both cases. In comparison to the first two core characteristics, sufficient examples are given in the

study data in order to operationalise the characteristics (Appendix I). The translation of goals from strategy to operating targets is supported by both cases as suggested in the sections above and thus reflects literature (Chenhall, 2003; Ferreira and Otley, 2009). The communication and wider implication of managers into the strategy generation (empowerment) is facilitated by strategy maps and the BSC on the MA's side (MA8). OMs also support communication and empowerment based on their lean management activities (mainly OM5 and OM14). This is in line with Ferreira and Otley's (2009) operationalisation of the characteristic. Interestingly, the generation of plans as a bottom-up and/or top-down process as advocated by the same literature is not underpinned by the study data. Both MAs and OMs attribute bottom-up and/or top-down generation more to target setting than to strategies and plans. According to both cases, key performance measures need to link back to strategy as also advocated by the literature (Johnson, Scholes and Whittington, 2008; Ferreira and Otley, 2009). The study data of both cases also support the issue of a sufficient number of indicators which supports Ferreira and Otley's operationalisation. MA8 discusses the number of indicators when talking about cycles between a more top-level BSC and a more detailed BSC (see Appendix G). MA8 stresses that it is very difficult to know, what sufficient KPIs are to achieve the strategy, if the right KPIs are chosen and what the maximum number is that can be managed by an organisation. He explains that it is a process of trial and error in their organisation. Then, MA8 also discusses the bindingness of measures which is important to attain the strategies and plans. On the OMs' side, OM3 for example mentions milestone control and result control as means of control to monitor measure implementation and thus strategy implementation within his organisation (see Appendix G). However, the use of many performance measures reduces their impact (Kaplan and Norton, 1996). Thus, OM3 stresses the importance to stay with KPIs and not to get lost. It adds to the literature in terms of the importance of milestone and result control mechanisms and the necessary bindingness of measures. Thus, from an MA's and OM's view, the aspect of the difficulty of bindingness of measures can be added to the literature. And the aspect of milestone and result control as a means to achieve bindingness is added by the OMs' view. Overall, the author suggests to add a bindingness aspect of the measures together with milestone and result control as operationalising factor to this characteristic.

Target setting is another characteristic strongly supported by the study data of both cases. Based on the study data, particularly of the MAs, two approaches to target setting can be distinguished plus a mixture of both. On one hand, a more strategy-driven approach (MA8, MA9, MA10, MA12) which treats the overall process, the mutual links of the functional targets (policy deployment, Hoshin Kanri¹⁵), the deduction from strategy, the coverage of certain perspectives and thus the integration of financial and non-financial targets. On the other hand, a very data-driven approach (MA2, MA7, MA11, MA15, MA16) can be observed just talking about financial KPIs taken from the budget and transferred to the target. Whereas the MAs represent both approaches plus a mixture (see Section 5.2.3), the OMs mainly represent the strategic approach (see Section 5.3.3). This can likely be explained, based on the fact that the MAs frequently support target setting operationally by providing the figures which makes them think much more operationally than strategically. This is an additional operationalisation of target setting not mentioned by Ferreira and Otley (2009). Further operationalisations as external benchmarks to provide legitimacy are only partly supported by the case groups. MAs tend to use benchmarks internally rather than externally (MA4, MA9) and OMs tend to use external benchmarks rather as best practice and exchange examples than for target setting (OM1). Thus, the study data do not entirely support benchmarking as an important operationalisation of target setting. According to Merchant and Manzoni (1989), targets optimize performance if they are 80-90 percent achievable. Interestingly, the MAs do not talk about achievability whereas two of the OMs (OM1, OM15) strongly argue against the top-down process and for more achievable targets. Further indications are given from both cases about the bottom-up and top-down generation of targets. Whereas MA4 is satisfied with the top-down target process introduced in the company a few years ago, OM1 and OM15 heavily complain about the top-down process and further OMs also reflect mixed feelings about the filling of the target gap by a top-down process. Apart from the fact that there is no common sense among the MAs and OMs about the benefit of the bottom-up and top-down process, the author suggests to attribute it to target setting rather than to strategies and plans. This is also strongly emphasised by the study data of both cases.

¹⁵ Hoshin Kanri (also called Policy Deployment) is a method of lean management, ensuring that the strategic goals of a company drive progress at every level within that company. This eliminates the waste that comes from inconsistent direction and poor communication (Witcher and Butterworth, 1999).

The characteristics of *performance evaluation* and *reward systems* are also strongly revealed by the study data. In line with literature (Ferreira and Otley, 2009), both cases mention individual or group and organisational performance. Both cases support a trend to mutualise targets (OM1, OM2, OM4, MA4, MA13) for the management level which are also relevant for incentive schemes. The reasons are to avoid complicated performance evaluation methods (MA4) and to avoid thinking in boxes or organisational charts (OM1). Also in line with literature (Ferreira and Otley, 2009), performance evaluation can be subjective or objective or a mixture of both. Both cases suggest all variants with a trend to a mixture, based on an objectively calculated performance evaluation which can be adjusted in case of major deviations which were not in the hands of the responsible as supported by the following quote:

How hard are they [the targets] monitored? [...] Not 1:1 in my view. (OM9)

RPE as a means of standardisation is only mentioned as a future project by MA1. Thus, it is not strongly supported by the case data of the MAs and not at all by the OMs. Also in line with literature (Bonner and Sprinkle, 2002), skills management is important in both cases in order to facilitate performance. However, in contrast to literature (Ferreira and Otley, 2009), skills management for both cases is more strongly attributed to performance evaluation than to reward systems, as the lacking skills are determined in the process of performance evaluation. Thus, this operationalisation is proposed as shifting (see Figure 6.1) if the split between performance evaluation and reward system is maintained. With regard to reward systems, the target to align personal goals with organisational goals (Hopwood, 1972) is generally in line with the case data. For both case groups, financial rewards are the most popular systems. Recognition is only mentioned by MA16 who “does not feel it” and by MA14 who considers personal appreciation very important. However, others do not mention it, suggesting recognition does not appear to be widely engrained in the reward systems of both cases. Promotions are only mentioned by MA14, who mentions promotion conditions in the company and OM16 who mentions employee development integrated in the annual performance reviews. This means that promotional systems are not necessarily closely integrated into the reward system. Interestingly, group rewards for collective achievement are only mentioned by both cases as town-hall meetings or fireside chats with managers. None of the interviewees mentioned team outings or other forms of collective incentive. This may be due to the fact that team outings are frequently done during leisure time and are

thus less recognised as company events. Thus, apart from the switch of skills management to performance evaluation and apart from the scarce indications for RPE (see Appendix I for both), all the core characteristics could be found in the study data to almost equivalent extent. A comparative overview of the PMS key characteristics with their operationalisation between the group of MAs, OM s and the literature can be found in Appendix I and Appendix J. This overview also contains exemplary quotes in order to support the arguments above and in addition to the case views in Sections 5.2.3 and 5.3.3.

The following paragraphs analyse the similarities and differences in the operationalisation of the enabling characteristics of a PMS. The group of MAs is compared with the group of OM s and then linked with Ferreira and Otley's (2009) framework. Starting with *organisational factors*, both case groups consider organisational issues (size, products, hierarchies) more as an enabling than a core characteristic (see Sections 5.2.3, 5.3.3 and 6.3.1). In addition, OM10 adds the concept of hierarchical simplicity or organisational simplicity as an operationalising concept (see Section 5.3.3).

Another characteristic which is the most strongly in line with the case data on MAs' side and OM s' side is *information flows and their efficiency*. Information flows are distinguishable from feedback, i.e. single loop information flows and feed forward, i.e. double loop information flows. The case data primarily represent single loop flows with simple corrective elements. Only those working with lean management and the BSC (MA5, MA8, OM4, OM5, OM8, OM14) showed double loop flows, which enables the organisation to learn (see Sections 5.2.3 and 5.3.3 and Appendix J). MA14 was not fully integrated into the daily lean management system, and thus not integrated into the double loop flow. From an MIS point of view, MAs commonly work with some kind of ERP system. For financial data, the use of big data analytics and data analysis is – according to both cases – in process. A new aspect claimed by both cases is the efficiency of information flows with a system that permits automated data use. This concept is combined with the simplicity of information at the top level to permit easy understanding for the normal user, permitting a deeper analysis for those who want to know more. The latter concept is only advocated by one OM and is consequently a

difference between the case groups. This difference can be explained by the fact that MAs are more familiar with the data and are thus not so dependent on easily understandable information, which is not the case for OMs. A further concept is that of formal or informal meetings which is found as an important information flow in both case groups. Informal networks, even if not primarily stressed by both cases, are also a concept found in the study data. Thus, both case groups are in line with Ferreira and Otley (2009), adding the aspects of efficiency of information flows and simplicity.

Another characteristic supported by both case groups is the *PMSs use* (see p.150). Both case groups support the concept that use is more important than design, as there is no corporate framework in place in the case organisations apart from a BSC. The main operationalisation of the concept of use is strongly related to the single and double loop information flows and thus means that the primary use is diagnostic in terms of Simons (1995). Only the use of BSC and lean management permit a more interactive use in both case groups.

PMSs change (see p.151) is a further enabling characteristic which was in tandem with management accounting change in both case groups. Three types of change can be distinguished in both case groups (see Sections 5.2.3 and 5.3.3): fundamental changes (i.e. giving up one PMS and replacing it completely – or not – by another PMS in organisation 4), technology-based changes (i.e. the work on new information flows based on a more self-service-oriented data concept in organisation 3) and continuous learning changes (i.e. minor improvements about time or depth in organisation 8). These types of changes are a new operationalisation of the characteristics and are found across both case groups. However, changes appear to be more reactive than proactive (see also Sections 5.2.3 and 5.3.3). Thus, overall the case study data is in line with current literature (Ferreira and Otley, 2009) and add to the operationalisation of the characteristic of PMSs change by proposing the three types of change.

The last enabling characteristic supported by both case study groups is *strength and coherence*. Both case groups are in line with extant literature by demonstrating elements of PMS frameworks and packages (see Section 2.3.4 and Appendix J). As argued in Section 5.2.3, the only corporate PMS framework mentioned by both case study groups

appears to be the BSC, which is complemented by the EFQM model by OM4 (Section 5.3.3). While the BSC is still used in organisation 8, the EFQM model had been abandoned because of a lack of discipline. All the remaining PMSs of the study organisations appear to be rather loosely coupled packages or partial frameworks. This first impression led to a more detailed analysis of the strength and coherence models. In order to facilitate the analysis of the overall structure, an overview (Table 6.1) was generated with the respective players of each organisation and the existence of indications of the different characteristics. If the respective characteristic was mentioned by the interviewee, the box is grey, if not it remains white. If secondary data are used for the characteristics, the box is black. Following the general ideas of Cooper, Ezzamel and Robson (2018), different levels of interdependence or strength and coherence of the PMS concepts can be observed in the study data, looking at both PMS frameworks as well as packages. Thus, a deeper analysis suggests a split into four basic models of strength and coherence which are described below:

- Model A: A corporate PMS deployed in the entire organisation (i.e. BSC as advocated by one MA and OM, EFQM as advocated by one OM). The strength and coherence for model A is exemplary, according to the case data, but the entire organisation needs to put a lot of effort into the system for permanent updates and needs to be very disciplined (MA8).
- Model B: A corporate PMS without definition of deployment levels (i.e. only a vision with freedom of accomplishment in organisation as advocated by one MA and OM, a corporate cockpit chart as advocated by one MA). Model B does not need such a discipline and effort as the model is only lived on a corporate level. Below the corporate level all depends on the respective management (MA10). Thus, this model needs a lot of trust from the BoM toward the managers below, and the enabling characteristics at least appear to become more important even if not explicitly defined from the top-level system. These enabling characteristics appear to compensate for the lack of defined core characteristics between the vision and mission and the performance evaluation and reward systems (Table 6.1). Only vision and mission as well as performance evaluation appear to exist on all levels of the model B organisation (i.e. organisations 1 and 10) as core characteristics.

	Core characteristics							Enabling Characteristics					Additional characteristic
	1) Vision/Mission	2) KSFs	3) Strategies and plans	4) Key performance measures	5) Target setting	6) Performance evaluation	7) Reward systems	8) Organisational factors	9) Information flows and their efficiency	10) PMSs use	11) PMSs change	12) Strength and coherence	
MA1													
OM1													
MA2													
OM2													
MA3													
OM3													
MA4													
OM4													
MA5													
OM5													
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OM14													
MA15													
OM15													
MA16													
OM16													

Legend

no support from data	
support from primary data	
support from secondary data	

Table 6.1: Inter- and intra-organisational comparison of PMS characteristics

- Model C: A functional PMS decoupled from corporate and mainly cascaded in functional view (i.e. lean management with shop-floor management as advocated by one MA and three production OMs). Model C can be evaluated like model A in terms of effort to keep the system updated and in terms of discipline. It is limited to a functional view and thus facilitates automated updates as the information flows have a functional restriction.
- Model D: A package loosely coupled (or not) with other packages in other departments of the company (as advocated by the majority of MAs and OMs). This model appears to be the primary model in use among the case study organisations.

The distinction of these four models will be taken up for the intra- and inter-organisational analysis of the PMS characteristics (Section 6.3.3) and the analysis of interactions. A comparative overview of the enabling PMS characteristics with their operationalisation between the group of MAs, OMs and the literature can be found in Appendix J. This overview also contains exemplary quotes which are in line with the arguments above. Interestingly, there were more indications for the enabling than for the core characteristics in both case data (see also Table 6.1). This might be a sign of an increased importance attributed to the enabling in comparison to the core characteristics. As mentioned above, this supports Pulakos and O’Leary’s (2011) contention that informal elements of a PMS tend to be more important than formal aspects. The next section describes the inter- and intra-organisational comparative view on key characteristics of a PMS based on the four models developed above.

6.3.3 Key characteristics of a PMS: inter-/intra-organisational view

In addition to the comparative analysis in Section 6.3.2, further points arise when analysing the views across the organisations (i.e. inter-organisational view) and the views of the MA and OM from the same organisation (i.e. intra-organisational view). In contrast to the previous sections, and to avoid repetition, this section focuses on an overview and does not operationalise the characteristics further. For this aim, this section refers to the four models of strength and coherence developed in Section 6.3.2 and to Table 6.1. There is no further distinction in this section between inter- and intra-

organisational view in order to avoid repetition. This analysis is in line with the stipulation of Cooper, Ezzamel and Robson (2018, p. 30) for further research on the interdependence of “the set of [PMS] devices”.

As mentioned in Section 6.3.2, model A refers to a corporate PMS deployed in the entire organisation. This is the case for the BSC which was deployed in organisation 8.

First of all it has the characteristic to be a nice tool and when you see it, you think “wow”. It helps you with the structure and it helps you to push the really relevant issues with the strategy map and to skip many other things. And it helps you to decide on actions that you really want to drive. (OM8)

From Table 6.1 there are indications that MA8 and OM4 are the only participants to demonstrate all the twelve characteristics of a PMS as defined in Figure 6.1. OM4 is familiar with different system models – a globally deployed PMS like the EFQM system (model A) which has been abandoned though due to a lack of discipline and a functional PMS like shop-floor management (model C). Interestingly, MA4 does not show the equivalent indications and did not talk about the EFQM model as a global PMS system either. From MA4’s age and experience it can be concluded that he must also have experienced the EFQM system but it was perhaps less universally deployed than the BSC in organisation 8. Another reason could be that OM4 was in another more actively involved organisational unit than MA4. Another explaining factor might be its potentially named misuse of “counting points” (OM4) which did not account for the credibility of the EFQM system as a PMS framework for every manager. Another reason might be that OM4 was presensitised for PMS frameworks with his operations and lean management background which attracted his attention more strongly to a global PMS than is the case for MA4. On the other hand, OM8 shows nearly the equivalent indications as MA8 apart from reward systems (i.e. 11 out of 12 characteristics). In contrast to MA4, OM8 strongly works with the BSC as globally deployed PMS and he might not have talked about reward systems in the interview for confidentiality reasons. Thus, MA8, nearly OM8 and OM4 are overall in line with Ferreira and Otley’s (2009) framework as well as Figure 6.1 with all its characteristics for model A. MA8 and OM4 also support the argument that a BSC and the EFQM model can be considered as an extended framework or holistic PMS if deployed across the organisation. In addition, it can be assumed from the data that a globally deployed

PMS makes the managers utilise all the characteristics claimed by Ferreira and Otley (2009) and by Figure 6.1.

Model B refers to a corporate PMS without definition of further deployment levels. This model is used in organisations 1 and 10. The latter organisation uses the core characteristics of vision/mission and performance evaluation as a stable core system. The deployment below depends on the different managers and is deliberately left open which is in line with the destruction of the company organisation.

There is no real structure. [Only] a vision which is updated every two years. [...] And a vision is not a figure-based target. [...] The rest changes. This is the only constant and overall definition. [...] We have more autonomy to decide and to take risks. (MA10)

The common top-level view appears to draw on the strength of this top-level system. This is illustrated by the strong values of organisation 10.

These values are fixed in everybody's mind. The values are more important than the process. (MA10)

A corporate PMS also exists in organisation 1 where the top-level cockpit chart is highly committed so that "they [the managers] can pray to it" (MA1). This cockpit chart represents the key performance measures and goes together with performance evaluation and reward systems. Below, there is "the human factor and the collaboration" (MA1) and it is all "flakey" (MA1). A high commitment, as in organisation 1, or fixed values, as in organisation 10, appear to be the main reason for the common view on enabling characteristics. In addition, from a communication perspective, it is potentially easier to focus, for example, on one rather simple top-level system than on very sophisticated and detailed system elements. Thus, communication-wise, the managers can understand it and adhere to it more easily.

Interestingly, an analysis of Table 6.1 reveals that MA1/OM1 and MA10/OM10 all show indications of all of the enabling characteristics, even if incomplete, with regard to the core characteristics. This might be an indication that a top-level PMS can be characterised by indications of the enabling characteristics. Core characteristics are various due to lacking deployment across the company and thus indicators of core

characteristics are scattered for this model (see Table 6.1). This is in line with Ferreira and Otley's (2009) framework and Figure 6.1 by supporting the importance of enabling characteristics. Based on this potential finding, it could even be argued that the enabling characteristics might be more important than the core characteristics in order to talk about a PMS framework or system. It tentatively supports Pulakos and O'Leary (2011) who consider informal aspects of PMSs more important than formal aspects.

Model C specifies a functional PMS which is decoupled from corporate and mainly deployed in a functional view. The sample data represent, for example, lean management and more specifically the systems of SQCDP and shop-floor management (Section 5.3.3). This system is particularly used in organisation 5 where both the MA and OM highly commit to this functional system.

If something is good, we see it based on the KPI and – based on the daily shop-floor discussions at the customer on the production line – the employees learn continuously which measures are successful and which are not. (MA5)

Our efficiency programme [...] that measures daily [...] the performance [...] of our employees based on our boards, shop-floor management etc. And meanwhile the MA has a big part in it. [...] The best friend of the production manager is the MA [laughing] – once converted. (OM5)

Analysing Table 6.1, it is revealed that both MA5 and OM5 show indications of all the enabling characteristics whereas the core characteristics are incomplete in different aspects. OM4, OM12 and OM14 also strongly commit to lean management. Interestingly, the equivalent MAs do not show the analogous indications. The main aspect for this diverging view is the fact that the MAs in organisation 4, 12 and 14 do not appear to be integrated into the lean management system and more precisely in the daily shop-floor management and SQCDP discussions. This explanation is supported by OM5 who explicitly stresses that

[...] the best friend of the production manager is the MA [laughing] – once converted. (OM5)

This lacking integration might be due to several factors. MA4 is not integrated into the shop-floor management activities as he is an MA in a BU. Thus, the link with operations is not as operational as it can be interpreted in a production plant. On the other hand, the

operations responsible of a BU needs to be aligned with the production plants and thus follows up cascading shop-floor management activities. The reasons why MA12 and MA14 are not integrated into the daily lean management can be multi-sided. For OM14 the MA in his organisation is considered as a delaying element who “provides limits that are always too tight” (OM14). Consequently, OM14 appears to prefer a limited transparency with his MA in order to stay capable of acting. MA14 is still part of the core team meetings, but obviously not involved in the daily shop-floor discussions. This might also depend on the business model as MA14 mentions “the cost reimbursement price”, the monopolist status for some customers and that “the targets are more delivery-based than based on an optimised company management” (MA14). For OM12 a certain distrust towards the MA can be observed based on his prior experience in another company where “the MA was the enemy of operations” (OM12). This means that OM12 has not so frequently experienced a positive impetus from the MA so far and thus does not feel the need to integrate him further. Another reason might be that organisation 12 does not yet have a common vision about the standards of lean management in their company which could be another reason not to integrate the MA yet. OM12 states with regard to lean management that “basically everybody does his own thing and there is even partially rivalry”. Another reason could be that the MA is so implied in various basic management accounting projects that he lacks in capacity to support any further activities. Thus, MA12 states that

[...] they just started two or three years ago to really establish the management accounting function [and] that it did not exist before to the same extent. (MA12)

These factors could all be reasons for less need of collaboration between MAs and OMs. Thus, the lacking collaboration on lean management in organisations 4, 12 and 14 potentially entails a disconnection between MAs and OMs about the enabling PMS characteristics. Consequently, the MAs remain in a position which is more closely related to a PMS package (model D) which is further detailed one paragraph below.

Table 6.1 also reveals that OM4, OM12 and OM14 show indications of all the enabling characteristics in line with organisation 5. This finding might imply that the enabling characteristics tend to be more important for a functional system (model C) as well as a top-level system (model B) than the core characteristics. It is also in line with Ferreira and Otley's (2009) framework and Figure 6.1 by developing the importance of enabling

characteristics. In addition, the analysis suggests that the only functional PMS mentioned in the study data is coming from operations and is based on lean management principles. Other functions like sales managers and their respective MAs (see Table 4.2) did not show indications of a functional PMS in the study data. This might be due to the non-existence of further functional PMS or the non-use of further functional frameworks as a system.

Model D merely specifies packages that are loosely coupled (or not) with other packages. This package or “set of [PMS] devices” (Cooper, Ezzamel and Robson, 2018, p. 30) is represented by the majority of the organisations of the study and shows a very scattered picture in the analysis Table 6.1. No further similarities can be deduced for the packages as they strongly depend on the focus of the manager and only show single elements, which do not combine to a logic with regard to core and enabling characteristics. Both core and enabling characteristics do not show a complete indication based on the PMS packages. The only similarities are – as mentioned in Section 6.3.2 – that the characteristic vision/mission is mainly proven by secondary data. A further similarity across the organisations appears to be a weak link from the vision to KSFs to strategies/plans. In addition, it is common among the MAs and OMs of the same organisation to only consider excerpts of the core or enabling characteristics when working with a package rather than a system. The majority of the indications for core characteristics starts with strategies and plans for model D.

Another interesting aspect which is revealed from the analysis of Table 6.1 (last column), is that additional characteristics of a PMS framework are mostly given by interviewees working with models B or C. The reason might be that they base their suggestions on their knowledge about PMSs and enabling characteristics. This might permit them to have a coherent picture in mind which is structured and complete enough to add potentially lacking conceptual information.

6.3.4 Summary of perceptions on key characteristics of a PMS

Based on within-case (Sections 5.2.3 and 5.3.3) and cross-case analysis (Section 6.3.1 to 6.3.3), Section 6.3 prepared the answer to the contextual rSQ2, examining what the

key characteristics of a contemporary PMS are. This study is in line with the basic idea of 12 characteristics of Ferreira and Otley's (2009) PMS framework, but slightly reorganises them in terms of core and enabling characteristics (switch of organisation structure from core to enabling characteristics) and complements it further with more contemporary aspects (organisation structure becomes organisational factors and efficiency is added to information flows). It also gives first further suggestions, which contingent factors might play a role (Figure 6.1). Interestingly, as can also be seen in Figure 6.1, the case comparison comes up with identical results for the 12 key characteristics (core and inner circle) across the case groups. Only the contingent factors are amended differently. It is interesting to note that the contingent factors added, are those of the role episode model with interpersonal factors and attributes of the person (Section 3.2.5).

However, looking at the inter-organisational comparison, four models of strength and coherence can be distinguished in the different organisations (models A – D, see Section 6.3.3 and Table 6.1). Interestingly, the organisations using PMSs as a framework or system (models A – C) suggest a strong focus on enabling characteristics, model A even strongly focusing on all the 12 key characteristics. This tentatively suggests that enabling characteristics appear to be more important for a framework to function than just the core characteristics. This is an interesting finding as Ferreira and Otley's (2009) visual framework with the inner core and the outer circles might infer that the inner core part is the foundation and thus more important than the outer parts.

To sum up, Section 6.3 potentially developed the existing body of literature of management control in the sense of a further operationalisation of Ferreira and Otley's (2009) 12 characteristics and of Figure 6.1. It developed the existing framework in terms of re-categorising and updating further characteristics. It also added to the current empirical research with the identification of the four strength and coherence models A – D which will be taken up for answering the main rSQs 3 and 4. Based on the results of Sections 6.2 and 6.3 the next section analyses and discusses rSQ3, on the interaction of the key characteristics of a PMS with the role of the MA.

6.4 Comparative analysis: interaction of a PMS with the role of the MA

Based on the analysis in Sections 5.2.4 and 5.3.4, this section performs cross-case analysis and discusses the views in detail in order to answer the main rSQ3. RSQ3 examines how the characteristics of a PMS interact with the role of the MA and *vice versa*. In contrast to the previous sections, interview data are the primary data source together with concept maps (see Section 4.8.2) as an important secondary data source. The section only contains sample quotes and further indicators for both MAs and OMs can be found in Appendix H and Appendix K. Again, before looking at the comparative findings of interaction, it needs to be stressed that there is little literature describing the interaction of characteristics of a PMS with the role of the MA (Section 2.4). Consequently, this section analyses the comparative views of the cases or occupational groups and inter-organisationally and concludes by discussing these views in the light of Byrne and Pierce (2007) and the role episode model (Katz and Kahn, 1978).

6.4.1 Interaction: MAs' vs. OMs' view

Based on within-case analysis (Sections 5.2.4 and 5.3.4) and based on Appendix K, the following points arise from the data. Both case groups – MAs and OMs – follow an updated role episode model (Figure 5.1) for the interaction of the PMS characteristics with the role of the MA. As described in Sections 5.2.4 and 5.3.4 and visualised in Figure 5.1 both cases integrate the PMS characteristics as surrounding conditions of the role episode model. Byrne and Pierce (2007, p. 488) consider the PMS itself together with organisational factors such as size, structure, culture, technology, management etc. as internal antecedents (Figure 2.4). However, they do not further structure how these antecedents are related to each other in more detail. Organisational factors and PMSs are simply considered as internal antecedents altogether. Individual and external antecedents complete the view (see also Figure 2.4).

This study develops Byrne and Pierce's (2007) approach by considering the internal antecedents as PMS characteristics, which are split into the seven core and five enabling characteristics according to the amended PMS framework of this study (see Figure 6.1). As outlined in Figure 5.1, organisational factors are just one characteristic among eleven others. Thus size, structure, management, location, culture and business can be

considered as organisational factors; technology can also be subsumed with organisational factors (see Section 3.2.5). However, PMS is the overall term encompassing organisational factors among other core and enabling characteristics. Interestingly, Byrne and Pierce (2007, p. 479) also elicited key performance measures, performance evaluation, target setting, budgeting and plans and reward systems which are considered core PMS characteristics (Section 6.3.2). A basic explanation for the differences of clustering of Byrne and Pierce's (2007) themes is that Ferreira and Otley's (2009) framework was published two years later and that Byrne and Pierce did not operationalise the PMS further. Looking at the underlying study and the findings of Sections 5.2.3, 5.3.3 and 6.3, the themes of Byrne and Pierce's (2007) internal antecedents could be clustered differently as represented in Table 6.2, subsuming all the internal antecedents as PMS characteristics.

Internal antecedents according to Byrne & Pierce (2007, p. 488) (Figure 2.4)	Reference to Ferreira & Otley (2009) (Figure 2.2)	Reference to this study (Figure 6.1)	Comment
Size	Organisation structure	Organisational factors	
Structure	Organisation structure	Organisational factors	
Culture	3rd level – contingent variable	3rd level	
Technology		Organisational factors	According to Section 3.2.5
Management	Organisation structure	Organisational factors	
Business nature and circumstances	3rd level – contingent variable	3rd level, organisational factors	Organisational factor according to Section 3.2.5
Location	Organisation structure	Organisational factors	
Performance systems	Core characteristics of Figure 2.2	Core characteristics of Figure 6.1	B&P only describe core characteristics

Table 6.2: From internal antecedents (Byrne and Pierce, 2007) to the PMS characteristics of this study

Thus, the overall views of core and enabling PMS characteristics, as represented by Figure 6.1, develop the internal antecedents of Byrne and Pierce (2007) and could replace them with a more structured and comprehensive approach. This interaction of

antecedents is also represented in a larger context and based on the updated role episode model in Figure 5.1. Empirical support for the arrows of the updated role episode model can be found in both case groups even if there are arrows in both case groups which can only be evaluated from a third party view (see Sections 5.2.4 and 5.3.4).

A further analysis of the study data based on Appendix K and Figure 5.1 reveals that the interaction between OM and MA and OM and PMS characteristics (arrows 1a and 1b) concerns both core and enabling characteristics of a PMS. Thus, target setting, key performance measures, planning, information flows and their efficiency as well as strength and coherence particularly appear to be in focus for these steps (Appendix K). The direct requirement definition of the OM towards the PMS characteristics appears to be more core characteristic-focused. Interestingly, analysing Appendix K, further enabling characteristics appear to enter the interaction starting with arrows 2a and 2b of Figure 5.1 and thus the feedback loop of the MA both towards the OM and the PMS characteristics. As will be discussed in Section 6.4.2, the enabling PMS characteristics might be a potentially decisive factor for the business support function of the MA. Thus, particularly OM seeking business support from their MAs could potentially impact on this function by focusing on the enabling PMS characteristics in their role-sendings. Very explicitly, OM could add to the business support function of MAs if they explicitly communicate and discuss their expectations about enabling characteristics of a PMS towards the MA.

A further common finding across both cases is the potential importance of further stakeholders (e.g. BoM, supervisory board, HQ). It is not only a common finding in Sections 5.2.4 and 5.3.4 but also in earlier sections with regard to roles of the MA. Sections 5.2.2 and 5.3.2, for example, explicitly emphasised the role of the stakeholders, especially OM15 talking about the strong impact of the parent company. Section 6.2 even discusses stakeholders as one important factor for role consensus/conflict of the MA. Interestingly, the stakeholder factor was mentioned by quite a few interviewees at the stage of developing or describing the concept maps. This may be explained by the fact that stakeholders were not explicitly asked for in the semi-structured interviews and that they were not the focus of questioning. It is also in line with the role episode model (Katz and Kahn, 1978) where different role senders are mentioned as a role set who find

their place next to the OM in Figure 5.1. Thus, there are potentially further role senders involved in the role episode model than just the OM. This potential interaction is developed in Figure 5.2. Thus, further stakeholders will be taken up again in Section 6.5 as influential factors.

Also, both cases of MAs and OMs agree on the circular mode of the role episode. In line with literature (Kahn *et al.*, 1966, p. 279) and Sections 5.2.4 and 5.3.4, the degree to which the focal person's behaviour conforms to the initial expectations is expected to influence the expectations in the next role episode. In total the role episode describes a cyclic and ongoing process where the focal person's behaviour (MA) provides feedback to the role sender (OM). The following role-sendings depend on the role sender's (OM's) evaluation of the focal person's (MA's) behaviour. The cyclic character of the role episode model is illustrated by the following quotes:

It was not a process which happened over night but it took some time. (MA2)

This is an ongoing circle. (OM16)

Another common finding across both cases is that the concept map method revealed further codes which were not detected explicitly from the interview data. The interaction with further stakeholders is one example (Sections 5.2.4 and 5.3.4). Another point exposed by the concept maps is that some MAs and OMs consider the basic interaction to happen between OMs and MAs, with the PMS framing this interaction or the interaction between OMs and MAs framing the PMS. This finding can be explained by two phenomena which result from the concept map itself – MAs and OMs are persons whereas PMS characteristics are not. This means that the respective interviewees wanted to distinguish explicitly between different levels. As a three dimensional concept map development was not possible on a two-dimensional sheet of paper, the respective interviewees decided for the framing solution. A further aspect is that the development of concept maps requires a high ability to abstract and a high level of concentration (Wheeldon and Faubert, 2009). As the concept maps were developed at the end of the interview, the concentration level had decreased. This explanation is supported by the fact that there is no 100% inter-organisational match between these concept maps. Thus, on the MAs' side, MA7, MA10 and MA16 developed this framing

concept and on the OM's side, it was OM1 and OM14. To conclude, this means that these concept maps are in line with the updated role episode model developed in Figure 5.1 as the core role episode is still represented and as the interaction with the PMS characteristics is merely not defined in detail. Thus, these concept maps could be considered a higher level of aggregation and simplification of Figure 5.1.

Role-taking and role-making can also be investigated for both case groups based on the information provided in Sections 5.2.4 and 5.3.4. Role-taking signifies, for the study, that the MA takes the expected role of the OM. This is what is represented by arrow 1a and the standard order of the updated core role episode (Figure 5.1). Interestingly, this role-taking appears to be triggered primarily on the core PMS characteristics (Appendix K). Role-making on the other hand can be described as an option where the role occupant (i.e. MA) can choose with respect to methods, activities and style (Katz and Kahn, 1978, p. 219). The MA can elaborate his role by exercising these options (Section 3.2.3). This is represented by arrows 2a and 2b where the MA inputs further parameters such as the enabling PMS characteristics on his own. This own input is represented by the following quotes:

What directly comes to my mind is the [...] manually established [...] comparison: result of a customer order or customer project with regard to a long-term goal [...]. And this was an internal impetus [of the MAs]. We did of course not manage to introduce it over-night. [...] With this decision I know the impact for my future. I think that this was also a motivating element. (MA4)

The MA recognised a need of sales but also for himself. And he tried to approach the issue proactively and innovatively. [...] I would say it is a permanent exchange among all [parties]. (OM16)

Role-making is also supported by data on different orders of the arrows of the role episode model mentioned by both case groups, i.e. the role episode not starting with arrow 1 (see Sections 5.2.4, 5.3.4 and Appendix K). Even if the case groups agree on the general role-making starting with arrow 2, they do not agree, if the role-making is initiated rather by arrows 2a or 2b of Figure 5.1. This is illustrated by the following quotes:

There is for example a new indicator that we newly defined or partly introduced. This is [...] an indicator about new customers [and...] an indicator for customer fluctuation. [...] Before nobody had a feeling [...] if the figures were realistic or if the countries [...] did not use it [for] result policy [...]. It was always the flexible rest. [...] We have developed a new consciousness for the topic so that there is a different quality. [...] And overall it motivates the region not to report a lump-sum in order to satisfy the BoM. But to think about the real situation and how to solve the issue in real life [...]. (MA11) [start at 2b]

And if you can manage it together [OM and MA] to agree on a certain number of comprehensible figures and facts and to say that we look at them as we understand them, we know what goes in and what comes out. Then it is OK. Then it is a useful supplement and an important supplement [...]. (OM12) [start at 2a]

The reason for this diverging view might be that most of the OMs feel directly confronted with the role-making of the MAs without thinking about further potential impacts apart from themselves or further impacts. From an MA's point of view, however, the focus might appear less oriented towards a person and more considered as a direct feedback into the PMS which justifies the focus on arrow 2b. Thus, both views remain combinable and both feedbacks (arrows 2a and 2b) most probably happen parallel or one slightly after the other.

Another partly diverging point with the literature (Byrne and Pierce, 2007, p. 479) appears to be a role conflict on budgets which influences "the interaction between MAs and OMs, and sometimes creates a tension between group and local managers' requirements". Based on cross-case analysis MAs vs. OMs, this type of role conflict is not commonly reflected in the findings of this study. Considering the indications from literature, one comment could be interpreted as a subtle hint for this point:

The MA always gives a frame which is too tight. The operations guy always has the impression: the jacket is too tight. And the MA always says: "we do not have any money for that". (OM14)

This finding may be influenced by the type of questions asked and by the type of analysis done. Role conflict on budgets might become more apparent looking at the inter-organisational view, which is analysed in the next section.

6.4.2 Interaction: inter-/intra-organisational view

In addition to the comparative analysis in Section 6.4.1, further points arise when analysing the views across the organisations (i.e. inter-organisational view) and the views of the MA and OM from the same organisation (i.e. intra-organisational view). To avoid repetition, this section focuses on an overall view. For this aim, this section refers to the updated role episode model in Figure 5.1, the four models of strength and coherence developed in Section 6.3.2 and the roles of the MA as analysed in Section 6.2. It also refers to Appendix I to Appendix K.

Model A as a corporate PMS deployed in the entire organisation with both MAs and OMs adhering to the model is represented by organisation 8. As analysed in Section 6.3.3, MA8 referred to the 12 core and enabling characteristics of a PMS whereas OM8 did not mention the reward systems (thus 11 out of 12). As mentioned in Section 6.2.2, both MA8 and OM8 consider the role of the MA to be mainly business support. Thus, the updated role episode model appears to run in an exemplary manner between OM8 and MA8 which can be described as strong role consensus as referred to in Section 6.2.2. This strong role consensus is based on an interpersonal and task level. The following quotes illustrate the common understanding between OM8 and MA8:

Where are actions that should be derived [...]. What is the optimum portfolio? [...]
Each MA of the BU challenges strategies. [...] We have further strategic elements that we serve on a divisional level [...] where we evaluate potential business fields we want to look at. (MA8)

All that concerns strategy implementation, project kick-offs, profitability of projects, project stop criteria, location decisions, TCO decisions ... The MA is everywhere. [...] The MA is a strong support on operational level and a strong support for strategy implementation. (OM8)

This strong role consensus is based on the updated role episode model and the common understanding of 11 out of 12 characteristics of the PMS of organisation 8. This can be analysed in Table 6.1 and is represented in Figure 6.2 by the underlined core and enabling characteristics:

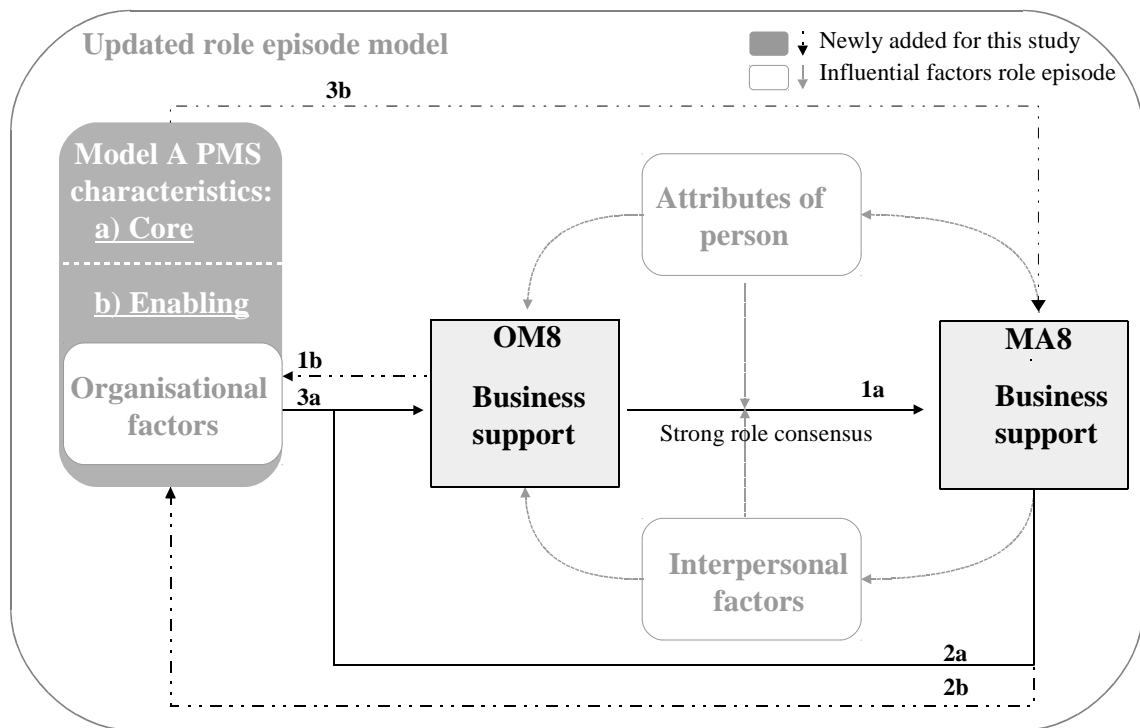


Figure 6.2: Updated role episode model A – organisation 8

Model B as a corporate PMS without definition of further deployment levels is represented by organisation 1 and 10. Based on the analysis in Section 6.3.3 and Table 6.1 both MAs and OMs are in line with the five enabling characteristics of the top-level PMS. As analysed in Section 6.2.2, MA1 and OM1 as well as MA10 and OM10 consider the role of the MA to be mainly business support (see Figure 6.3). However, also based on Section 6.2.2, role consensus is not as strong as for model A in organisation 8. This general role consensus is illustrated based on the quotes by organisation 10:

My main task is to ensure [profitable] growth. (MA10)

And they [the MAs] are more in the process to link the normal activities of the P&L with the products and to have the link [...] cause and effect. [...] They [the MAs] are supporting [...] the mind in the future and anticipate what can happen. (OM10)

The business support function is illuminated based on the following quotes by organisation 1:

Management accounting here means to secure overall control and steering. (MA1)

And you need people who do not only make the effort to understand their systems but do the matching between the real world and the systems. [...] And that we meet on equal terms [...]. (OM1)

This weaker role consensus than in model A may be an indicator for further influential factors which will be analysed in Section 6.5. A further potential reason for a differing level of role consensus could be the fact that model B adheres to enabling characteristics and not simultaneously to core characteristics (as denoted by the smaller font in Figure 6.3). Thus, analysing model C which also focuses on enabling characteristics is suggested as a next step.

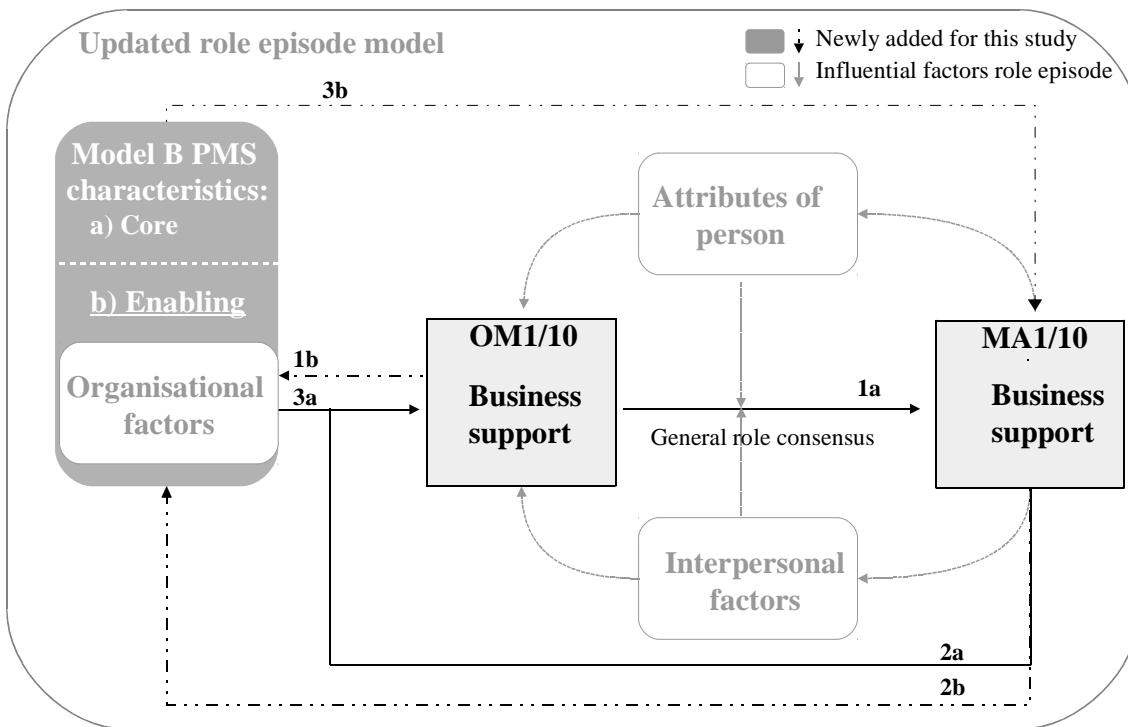


Figure 6.3: Updated role episode model B – organisations 1 and 10

Model C as a functional PMS which is decoupled from corporate and mainly deployed in a functional view is represented by organisation 5. Based on the analysis in Section 6.3.3 both the MA and OM suggest use of the five enabling characteristics of the functional PMS. However, the core characteristics are not fully reflected as denoted by the smaller font in Figure 6.4. As analysed in Section 6.2.2, MA5 and OM5 consider the role of the MA to mainly be business support. In contrast to model B, strong role consensus can again be found. This strong consensus is illustrated by the following

quotes:

We measure the efficiency increase [...]. This means that we work on hourly levels. It has an advantage for the employees we talk to: everybody understands it. [...] We want this as a daily view. [...] Each responsible can directly intervene. (MA5)

Our efficiency programme [...] which measures daily how the performance of our employees is, monitored on the boards, shop-floor management cycle etc. And our MA has an important task in this process. [...] We organise [...] workshops every Tuesday with up to [...] 40 people and there are also MAs attending [...] and where we treat precise issues or improvement topics. (OM5)

Comparing model B and C, it seems adherence to enabling characteristics is enough to generate role consensus, but not to generate strong role consensus. This is an additional indicator for the existence of further influential factors (particularly interpersonal factors) which will be analysed in Section 6.5. It could also be argued that a functional model C PMS has a stronger integration potential than a top-level corporate model B PMS which makes role consensus more powerful for a model C PMS. The updated model C role episode is visualised in Figure 6.4.

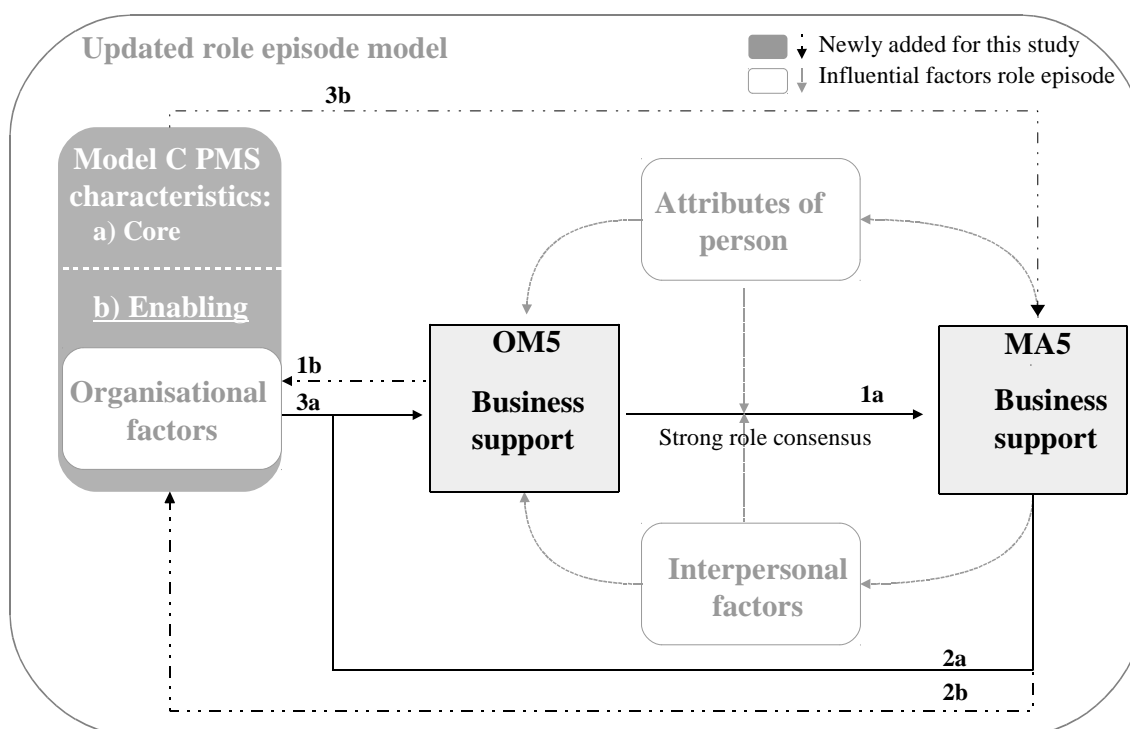


Figure 6.4: Updated role episode model C – organisation 5

In the model C context, it needs to be stressed that the MA needs to be fully integrated into the functional PMS and the enabling characteristics in order for this interaction to be effective. OM12 and OM14 also work with functional PMSs which suggest strong enabling characteristics (see Table 6.1 and Appendix K). Nevertheless, they do not integrate their respective MAs into the system, which does not render the enabling characteristics transparent to the MAs and this leads to a partly diverging understanding of the roles of the MA. Also, further stakeholders might intervene and add to the lacking integration. This integration aspect also applies to models A and B and can thus be considered a core requirement even if not explicitly stated above.

But there are also organisations with a split view on the PMS characteristics among MAs and OMs. In organisations 3, 4, 12 and 14, the OMs basically fuse and adhere to a functional PMS (model C), but the MAs are not closely integrated into the PMS. The respective OMs support all of the enabling PMS characteristics and they strive to have an MA in a business support function – as representative for a model C PMS. The respective MAs of these organisations, however, are less strongly integrated into the PMS and are thus not strongly aware of the enabling PMS characteristics. With regard to the MA's roles, two cases can be distinguished: MA3/MA4 who fulfil parts of a

business support function and MA12/MA14 who are caught in scorekeeping and controlling functions. Whereas MA3 and MA4 appear to be able to work closely to the needs of the division or BU, MA12 and MA14 appear to be influenced by a strong parent company (i.e. further stakeholders) that dominates the prioritisation of tasks. The latter statement can be illustrated by the following quotes:

Management accounting is needed to provide reports. But this means that we do not intervene to steer. [...] Management accounting in another company is perceived differently. It is simply more important and more accepted or considered necessary [...]. This is a little different here. (MA12)

If I look at the efforts for reporting now and five years ago: it tripled. [...] They want to understand every position after the decimal point and this changed massively over the last four years: it became worse. (MA14)

Thus, again (see Sections 5.2.2 and 5.3.2) further stakeholders appear to play a decisive role in the updated role episode model (Figure 5.2) together with the PMS characteristics themselves.

Model D merely specifies packages that are loosely coupled (or not) with other PMS packages. Based on the analysis in Section 6.3.3 and Table 6.1, no general similarities can be deduced between the link of the PMS characteristics and the role of the MA for model D. Organisations 2, 6, 7, 9, 11, 13, 15 and 16 can be considered as model D PMSs. Indications of the respective core and enabling characteristics for these organisations are scattered, and the role of the MA is mainly scorekeeping or controlling. Interestingly, no business support role could be investigated for model D PMSs neither from an MA's nor from an OM's view. A summary of the PMS models A – D and the respective organisations is illustrated in Figure 6.5 below.

Model of PMS	Focus of PMS characteristics	Adhering organisation	Role of MA
Model A	Core and enabling	8	Business support
Model B	Enabling	1, 10	Business support
Model C	Enabling	5	Business support
Model C of OM	Enabling	OMs: 3, 4, 12, 14	Depending on further stakeholders
Model D	Scattered	2, 6, 7, 9, 11, 13, 15, 16	Scorekeeping/controlling

Table 6.3: Table of PMS models and attribution to study organisations

Further findings can be revealed looking at the opposite of role consensus, i.e. role conflict. This role conflict can be especially found in organisation 15 where OM15 comments that

[...] virtually speaking we have more work [with the reporting/management accounting] than it facilitates our work.

Analysing the updated role episode model suggests a strong impact of other stakeholders particularly with the CFO and the parent company. This is illustrated by the following quotes:

There is a new CFO. We take the chance and make a proposal what we consider as important. (OM15)

It is all customised according to the information needs of the holding company. (MA15)

As discussed in Section 6.2.2, the cause of this role conflict is seen in the prioritisation done by the “holding company” as expressed by OM15 himself and based on a potential lack of common interests of the current stakeholders. A special lack of interpersonal fit could not be observed (“we do not have interface problems”, “the collaboration is good” (OM15)). Thus, a summary of the updated role episode model of organisation 15 is illustrated in Figure 6.5 and clearly points out the causes of role conflict with the model D PMS characteristics and the role conflict between the OM and MA based on further unaligned stakeholder interests.

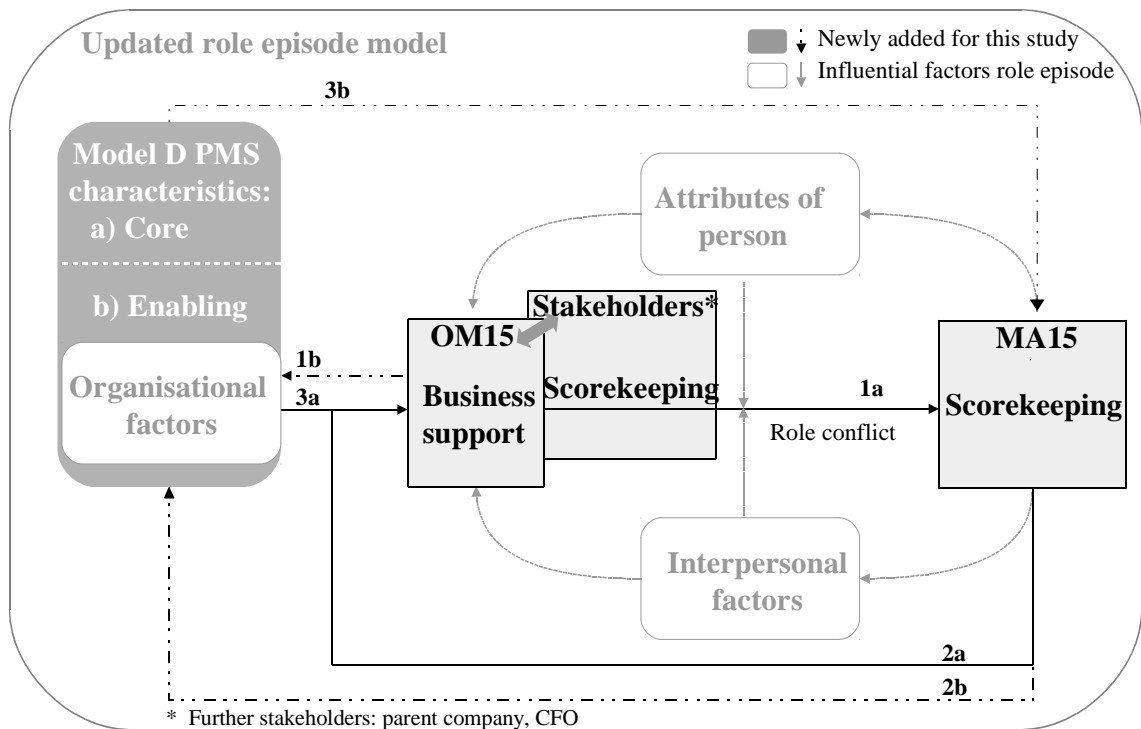


Figure 6.5: Updated role episode model – organisation 15 – role conflict

On the other hand, organisations 11 and 13 cope with the potential role conflict by installing further intermediate departments which can cover the business support function instead of the MA. In both organisations, the potential role conflict between OMs and MAs is mainly due to further stakeholders who do not agree with the role view that the respective OMs have about the MAs. In both cases, the sales function is concerned. Looking at the overall updated role episode model, the implementation of such an additional department is a quick potentially short-sighted solution for the role conflict as different departments create separate role episodes. Based on long-term orientation, this additional player only makes sense if the functional PMS is, by the majority, decoupled from the PMS with which the MA works. This appears to be the case for organisations 11 and 13. Otherwise this additional player needs to be additionally aligned based on the updated role episode model which complicates the process for the company. No matter what PMS the organisation works with, the additional department will always prevent the MA from taking a business support function as the stakeholder's role-sendings are dominant for the MA. The OM's role-sendings may potentially not even reach the MA and thus, the MA will never be totally integrated in the functional PMS. Consequently, this additional department will most probably be an obstacle for the MA to adopt a business support function. The MA will

most probably no longer be part of the updated role episode with the OM and might consequently decouple from the operative business.

Thus, to conclude, the overall structure of internal antecedents of Byrne and Pierce (2007) as developed and discussed in Section 6.4.1, is also supported by the inter- and intra-organisational comparison by categorising them in the structure of the PMS characteristics as depicted in Figure 6.1. However, the tensions with regard to budgets mentioned by Byrne and Pierce (2007, p. 479) are only scarcely supported by this research (see previous section). No further indications could be detected during the inter- or intra-organisational analysis. As discussed above, this study reveals tensions or more precisely role conflict for the role of the MA:

- with regard to the weight of the roles scorekeeping vs. business support (see Section 6.2),
- with regard to the role conflict due to diverging stakeholder interests vs. OMs (see above)
- with regard to a lacking coherence of PMS characteristics (model D – see Table 6.1)
- and with regard to the lacking integration of the MA into the PMS due to the implementation of additional departments (see organisations 11 and 13).

This diverging view between this and Byrne and Pierce's (2007) study is revealed through the additional analysis modes. Mainly cross-case analysis as an inter- and intra-organisational analysis revealed the above mentioned details. As Byrne and Pierce (2007) did not analyse their data in this way, these findings were potentially not uncovered.

6.4.3 Summary of interaction

Based on within-case (Sections 5.2.4 and 5.3.4) and cross-case analysis (Sections 6.4.1 and 6.4.2), Section 6.4 prepared the answer to rSQ3, examining how the characteristics of a PMS interact with the role of the MA and *vice versa*. For answering rSQ3, Section

6.4.1 re-categorised Byrne and Pierce's (2007) internal antecedents of the role of the MA into the PMS characteristics, primarily structuring the organisational factors (Table 6.2). Integrating the PMS characteristics together with the organisational factors into the role episode leads to an updated role episode model (Figure 5.1). An inter- and intra-organisational analysis classifies the models A – D PMS with the respective roles of the MA which further underpins role-making and -taking mechanisms (Table 6.3). Furthermore, role consensus/conflict are identified as relevant factors in the interaction (see Figure 6.5 for role conflict and Figures 6.2 to 6.4 for role consensus). In addition, further stakeholders appear to be an additional influential factor according to both MAs and OMs. Figure 6.5 describes role conflict in the updated role episode model also including further stakeholders with diverging interests (organisation 15). In contrast to Byrne and Pierce (2007) where tension was observed with regard to budgets, role conflict could be observed in terms of the weighting of activities (OMs require more support whereas MAs are stuck in scorekeeping). This role conflict can also be confronted with a coping strategy (Section 3.2.4) by installing other departments who do the required services for the OM. In this case the replacing department is integrated into the PMS characteristics and the updated role episode and takes over the roles of business support which leaves the MA aside (organisations 11 and 13). From an overall company perspective, this is only recommendable if the MAs and replacing department do not compete and especially if the PMS characteristics served by the MA (in cooperation with further stakeholders) and the PMS characteristics served by the OM harmonise.

With regard to the impact of the key characteristics, the indications are that the enabling characteristics appear to be more relevant for both the PMS and for the business support role of the MA (models A – C) than the core characteristics of a PMS. This is also in line with Pulakos and O'Leary (2011) who stipulate further research on the importance of informal aspects of a PMS in contrast to formal aspects. It might be sufficient for the OM to follow the enabling characteristics based on the PMS models A – C if there are no further strong stakeholders influencing the role-sendings (Table 6.3). The alignment and integration of an MA into the PMS are a supporting issue for the attainment of the business support function of the MA. Role-making also appears to be a main driver for the business support function where model B appears to leave the maximum freedom

for role-making itself which does not mean that role-making would not be possible with the other models. To conclude, different role consensus levels among the PMS models A – C as well as different role perceptions within model D suggest that there might be further influential factors other than the stakeholders in this interaction which are subject to analysis in the following.

6.5 Comparative analysis: influential factors of interaction

Based on Sections 5.2.5 and 5.3.5, this section compares the views of MAs and OM s on influential factors and discusses them inter- and intra-organisationally. Thus, this section answers the main rSQ4, examining what the influential factors of interaction between the characteristics of a PMS and the role of the MA are. After a cross-case analysis and an inter- and intra-organisational analysis, the influential factors are discussed in the light of the above mentioned literature and by pointing out the new aspects arising from this study. Additional exemplary indications can be found in Appendix L.

6.5.1 Influential factors: MAs' vs. OM s' view

Comparing the findings of within-case analysis (Sections 5.2.5 and 5.3.5) and based on the comparison table of influential factors developed from the findings (Appendix L), the following points arise from the data. Both case groups of MAs and OM s show the influential factors of culture and context in line with Ferreira and Otley's (2009) extended PMS framework. Also, both case groups are in line with the role episode model (Katz and Kahn, 1978) including the surrounding factors with organisational factors (enlarged to enabling PMS characteristics based on Sections 6.3 and 6.4), personal factors and interpersonal factors. Based on Section 6.3.1 it was not obvious if both groups support interpersonal factors. This supposedly unilateral support can be explained by the way of analysis which focused purely on key characteristics of a PMS and not on the interaction. In addition, both MAs and OM s show indications of the newly investigated factor of resources as an aspect of organisational factors (see Sections 5.2.5 and 5.3.5). Also the dimensions of enabling or blocking factors can be observed as a concept among both case groups. This dimension is not explicitly mentioned in the literature above but is considered important for a purposeful interaction. An additional common aspect based on both MAs and OM s is the alignment

with Byrne and Pierce's (2007) further antecedents of the role of the MA. Figure 6.6 summarises the factors of the three studies and re-categorises them as follows.

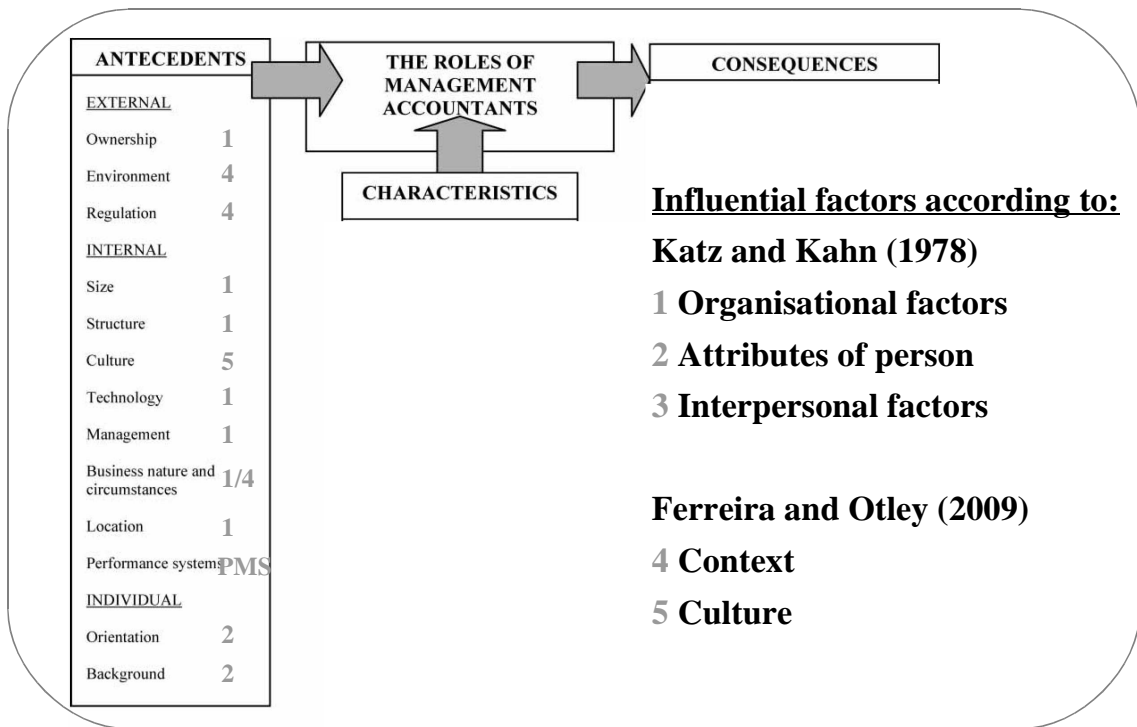


Figure 6.6: Attribution of Byrne and Pierce's (2007, p.488) antecedents to surrounding factors of role episode model (Katz and Kahn, 1978) and contingent PMS characteristics (Ferreira and Otley, 2009)

Looking at Byrne and Pierce's (2007) antecedents taken into consideration in Section 6.4 and Figure 2.4, the external and individual antecedents have not yet been investigated in this study as well as culture and circumstances of the internal antecedents. According to Byrne and Pierce (2007), external antecedents involve ownership, environment and regulation. Attributing all these categories in relation to Katz and Kahn (1978), Ferreira and Otley (2009) and Figure 6.6, environment and parts of regulation can be categorised into context, being thus subsumed in Ferreira and Otley's (2009) PMS framework. Ownership is also strongly suggested by both case groups in the underlying study and can be subsumed with further organisational factors (Katz and Kahn, 1978). Individual factors such as orientation and background are also supported by the study and subsumed in the Katz and Kahn (1978) category of attributes of the person. This re-categorisation is presented in Figure 6.6 with the PMS and organisational factors already having been depicted in Table 6.2.

The main difference between the MA's and OM's case is that the enabling/blocking factors of gaps (explicitly) or role consensus/conflict (implicitly) are only mentioned by the MAs (MA3, MA4, MA11, MA14, MA16). As detailed in Section 5.2.5, the gaps refer to the lack of tools for simulation planning or to the lack of value added in the current accounting processes. The reason for this unilateral explicit consideration might be that the minor gaps were not so strongly perceived by the OMs. An auto-detection and amendment of the MAs might have led to a role consensus before the OMs could perceive the gap. Another reason may be that role consensus/conflict are more implicit factors which will only become obvious if very sensitive to the process or if an implicit conflict becomes more explicit. Thus, major gaps between the role expectations of the OM and the role behaviour of the MA can lead to role conflict as primarily described for organisation 15 (see Figure 6.5). Another more implicit influential factor revealed from the role conflict – and also from the basic interaction – are further stakeholders. In Sections 5.2.4 and 5.3.4 further stakeholders have been revealed as being part of the role episode model and as being influential particularly if not aligned with the OM. In this sense, Figure 5.2 describes an initial depiction of the potential impact of further stakeholders in the updated role episode. An overview of the influential factors is given in Figure 6.7, encompassing the relevant literature with the enabling PMS characteristics (including organisational factors), attributes of the person and interpersonal factors (Katz and Kahn, 1978) as well as context and culture (Ferreira and Otley, 2009). As Byrne and Pierce (2007) merely name sub-categories of the above named factors as antecedents (Figure 6.6), this study also underpins Byrne and Pierce's (2007) findings about the antecedents of roles of the MAs and complements them further. Based on this study, besides supporting the five known factors, two further influential factors can be identified: further stakeholders and role consensus/conflict. In addition, the enabling or blocking dimension can be added to the analysis of influential factors as described in Appendix L. While not explicitly mentioned by the interviewees, it can be assumed that once blocking factors are reversed, they could become enabling factors and thus encourage the interaction of the characteristics of a PMS with the role of the MA. The next section analyses and discusses the inter- and intra-organisational view on influential factors.

6.5.2 Influential factors: inter-/intra-organisational view

In addition to the comparative analysis in Section 6.5.1, further points arise when analysing the views across the organisations (i.e. inter-organisational view) and the views of the MA and OM from the same organisation (i.e. intra-organisational view). Based on the explicit study data, the inter- and intra-organisational analysis of the influential factors does not show any new or mentionable similarities. However, combining the information from previous sections with the analysed influential factors, this section refers to the influential factors of the updated role episode model in Figure 6.7 and the four models of strength and coherence of implementation developed in Section 6.3.2. Thus, this section primarily refers to the potentially new enabling and blocking factors of role consensus/conflict.

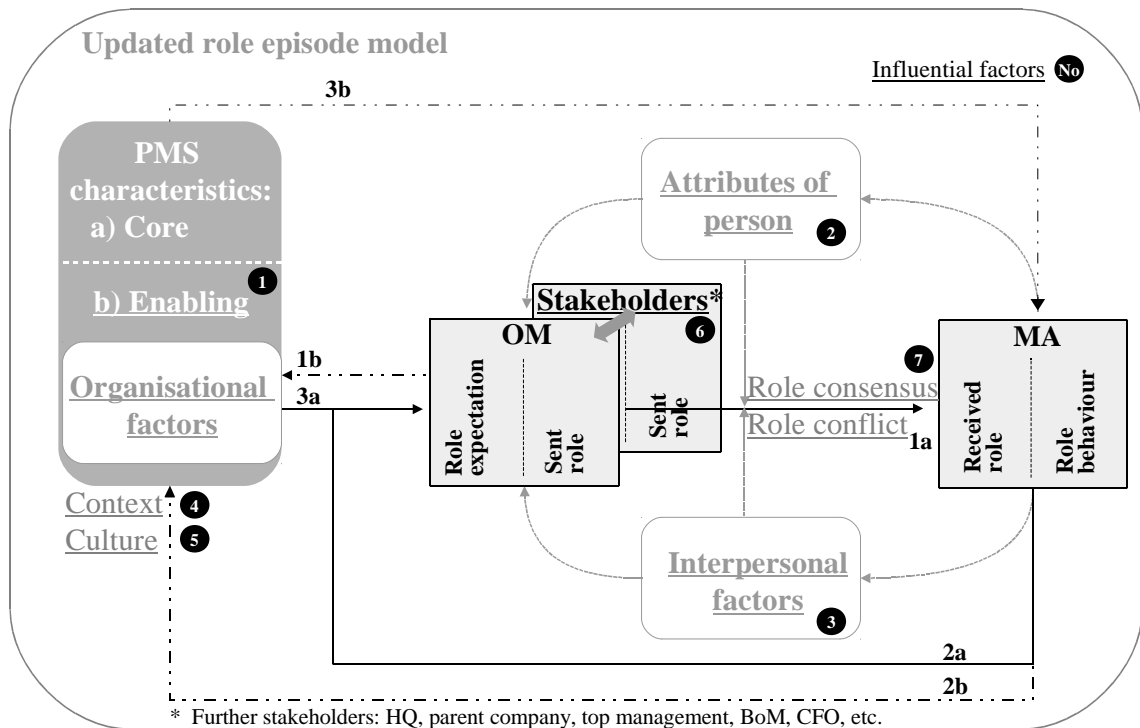


Figure 6.7: Updated role episode model including seven main influential factors

As described in Section 6.4.2, model A, as a corporate PMS deployed in the entire organisation with both the MA and OM adhering to the model, is mostly represented by organisation 8 (Figure 6.2). Model C, as a functional PMS which is decoupled from corporate and mainly deployed in a functional view, is represented by organisation 5 (Figure 6.4). And model B, as a top-level corporate PMS without further deployment in

the organisation, is represented by organisations 1 and 10 (Figure 6.3). Role consensus can be found in all the above named organisations. As explained in Section 6.4.2, role consensus is supported by a common view on the PMS characteristics, mainly in terms of the enabling characteristics. Further interaction-enabling factors with particularly interpersonal factors (see Figure 6.8 for structure and Appendix L for details) add to this role consensus.

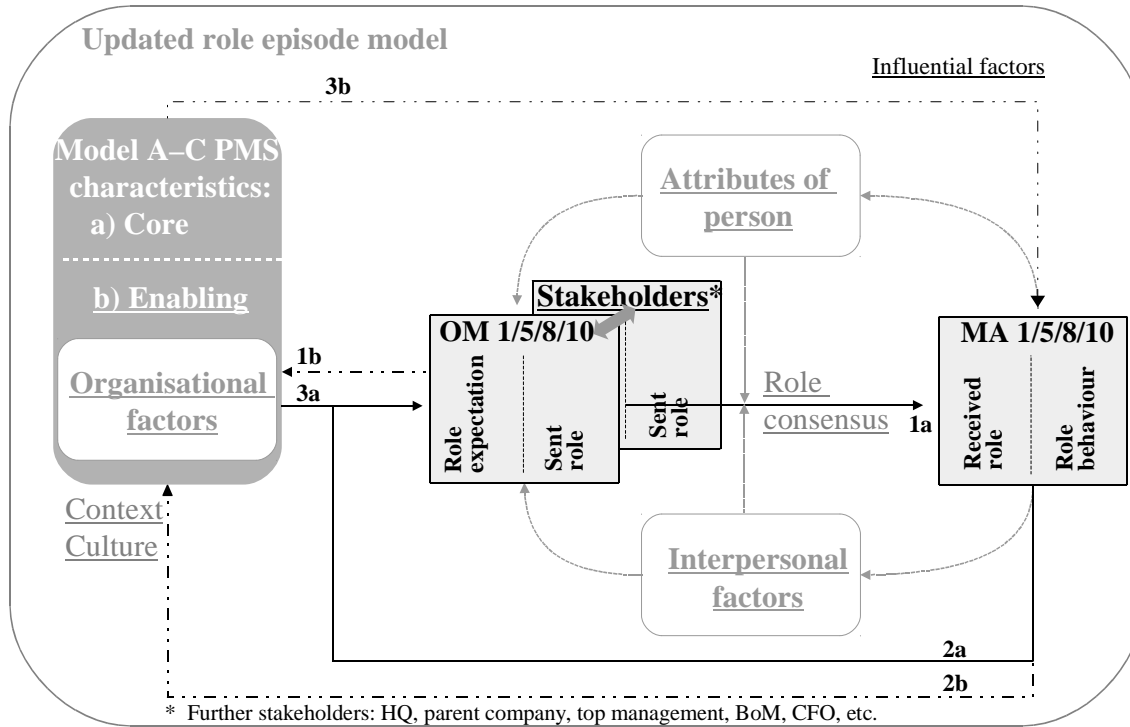


Figure 6.8: Updated role episode model including influential factors for model A to C PMS (organisations 1, 5, 8, 10) – role consensus

On the other hand, organisation 15 suggests role conflict based on the prioritisation done by the “holding company” (i.e. stakeholder) as expressed by OM15 himself and based on a potential lack of common interests of the current stakeholders (see Section 6.4.2 and Figure 6.5). Thus, further blocking influential factors (e.g. resources) could be observed in addition to the role conflict based on the model D PMS. An overview of this relationship together with further potential blocking influential factors is depicted in Figure 6.9.

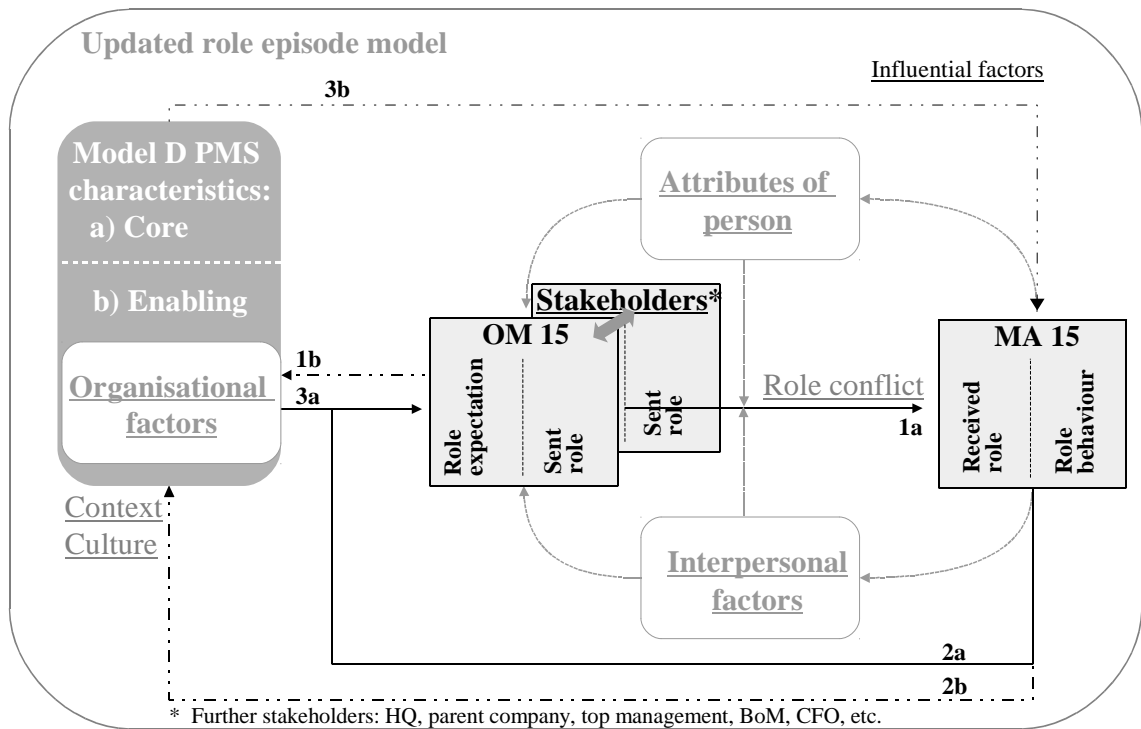


Figure 6.9: Updated role episode model including influential factors for model D PMS (organisation 15) – role conflict

Summarising the analysis and discussion of Section 6.3.3 together with the information above, Table 6.3 can be amended as follows:

Model of PMS	Focus of PMS characteristics	Adhering organisation	Role of MA
Model A	Core and enabling	8	Business support
Model B	Enabling	1, 10	Business support
Model C	Enabling	5	Business support
Model C of OM	Enabling	OMs: 3, 4, 12, 14	Depending on influential factors
Model D	Scattered	2, 6, 7, 9, 11, 13, 15, 16	Scorekeeping/controlling

Table 6.4: Table of PMS models and attribution of study organisations including influential factors

Thus, the enabling or blocking dimension of further influential factors is the determining factor for model C PMS as known and lived by the OM, not only further stakeholders as assumed in Table 6.4. It can be observed that, depending on the strength and enabling mechanisms of the further influential factors (Figure 6.7), the role of the

MA can still be considered business support even if the MA and OM do not agree entirely on the enabling PMS characteristics for models A – C. The next section summarises the influential factors of interaction.

6.5.3 Summary of influential factors of interaction

Based on within-case (Sections 5.2.5 and 5.3.5) and cross-case analysis (Sections 6.5.1 and 6.5.2), Section 6.5 prepared the answer to rSQ4, examining the influential factors of interaction. Overall, this section reveals seven influential factors with an enabling and blocking dimension for interaction. Five of the seven influential factors support and partly enlarge the current body of literature (Katz and Kahn, 1978; Byrne and Pierce, 2007; Ferreira and Otley, 2009) with organisational factors enlarged to the various enabling PMS characteristics, attributes of the person, interpersonal factors, contextual factors and culture. Within the organisational factors, the aspect of resources (time, information, human, monetary) could be revealed as an additional issue of importance. Two of the seven influential factors are potentially new with further stakeholders (as role senders) and role consensus/conflict. Particularly further stakeholders were strongly supported by concepts maps and already brought up in Sections 5.2.2 and 5.3.2 (Figure 5.2). Figure 6.7 summarised the updated role episode model with the interactions including the seven influential factors.

Byrne and Pierce's (2007) antecedents of the roles of the MA are also in line with the study data (Appendix L) and could be subsumed differently in line with further empirical literature (see Figure 6.6). In combination with the findings and analysis of the previous rSQs, it could also be suggested that the business support role of the MA is enabled by role consensus – apart from a common view on enabling characteristics of the PMS. Thus, a model for role consensus (Figure 6.8 for organisations 1, 5, 8 and 10) and role conflict (Figure 6.9 for organisation 15) could be summarised as updated role episode models assuming that role conflict can be partly resolved by running sufficient role episodes, by aligning views with further stakeholders and by a common work on the enabling characteristics of the PMS. To conclude, seven influential factors with respective enabling or blocking dimensions could be suggested, proposing an amended table of interaction of the PMS models A – D with the role of the MA (see Table 6.4). In

addition to the discussed findings above, this study also reveals further points which are not directly related to core research objective and guiding rSQs, but merit a side-note. The first point concerns information system integration and the second concerns beyond budgeting. Further explanations and sample quotes can be found in Appendix M.

6.6 Summary of cross-case analysis

Chapter 6 addressed the two contextual and the two main rSQs from a cross-case view and with the objective of comparing and discussing the findings and with the final objective of answering the two main rSQs. Concerning the role perceptions of the MA (rSQ1), Section 6.2 presented and discussed a comparative analysis of activities of the MA based on the different views. With regard to key characteristics of a PMS (rSQ2), Section 6.3 analysed and discussed the main codes based on Ferreira and Otley's (2009) model and complemented it by distinguishing between four basic models of implementation distinguishable in the data. Relating to the interaction of characteristics of a PMS with the role of the MA (rSQ3), Section 6.4 described and discussed the most salient comparative findings. Then, Section 6.5 analysed and discussed the study data regarding the influential factors (rSQ4). Conclusions summarising the overall findings of the thesis together with their contributions are presented and discussed in the next chapter.

CHAPTER SEVEN: Conclusion

7.1 Introduction

This chapter summarises the main contributions of the thesis, as well as highlighting its limitations and areas for future research. The research analysis of this thesis, as aligned to the research objective and respective rSQs, was presented in Chapters 5 and 6. The analysis involved the in-depth utilisation of an updated role episode model based on Katz and Kahn (1978) analysing how and why the characteristics of a PMS interact with the role of the MA and *vice versa*. Thus, the main findings and discussions of these analyses form the fundamentals here. This chapter begins with a brief summary of the contents of the thesis. Then, the empirical findings and contributions of this thesis are summed up in Section 7.3. Section 7.4 is devoted to the limitations of the study and the avenues for further investigation are presented in Section 7.5. The chapter and thesis concludes with some final words (Section 7.6).

7.2 Overview of the thesis

This section gives a final overview of the thesis. Empirical literature reviewed in Chapter 2 suggested performance management remains an area of continuing importance. However, “[q]uestions of [how the] organisational control systems, management accounting and performance measurement and management interact, remain outstanding” (Parker, 2012, p. 66). This interdependence principle is taken up by Schleicher *et al.* (2018, p. 2230) who stipulate the “examination of multiple [PMS] components” and the examination of “the interdependencies (and conflicts) that likely exist when individuals hold multiple roles”. As a part of this question, Byrne and Pierce (2007) define a PMS as an antecedent of the role of the MA. However, they identify performance management as one antecedent among further factors, and do not investigate the question of how and why in more detail. In addition, they loosely couple the antecedents arising from their sample data without much structure other than individual, internal and external antecedents. The underlying research focuses on further explanations combined with an adequate structure, as conveyed in the overall objective – how and why do the characteristics of a PMS affect the role of the MA and *vice versa*?

Chapter 3 provided a critical account of role theory and the role episode model as introduced by Katz and Kahn (1978). Role theory has been subject to decades of challenge and critique. Chapter 3 acknowledges this critique and argues why the role episode model is still an adequate theoretical lens through which the data are analysed in this thesis. Data were gathered by means of a comparative case study (MAs and OMs) conducted within 16 large Germany-based multinational organisations. Chapter 4 provided a detailed account of the paradigm used and the methods by which the data were gathered and analysed.

The empirical findings of Chapter 5 and Chapter 6 were informed by extant literature (Byrne and Pierce, 2007; Järvenpää, 2007; Ferreira and Otley, 2009) and an updated role episode model (Katz and Kahn, 1978). The findings outlined, suggest the application of the role episode model in a management accounting context. Chapter 5 and 6 then offered explanations for these phenomena by advancing the role episode model into the empirical context of this study and updating it accordingly. Thus, an answer to the two contextual rSQs was gradually built-up across Chapter 2 (literature review), Chapter 5 (within-case findings) and Chapter 6 (cross-case findings and discussion). Accordingly, an answer to the main rSQs 3 and 4 emerged within Chapter 3 (theoretical approach), Chapter 5 (within-case findings) and Chapter 6 (cross-case findings and discussion). To conclude, the developed updated role episode model including influential factors, proposes how and why the characteristics of a PMS interact with the role of the MA and *vice versa*. This overall interaction was depicted in Figure 6.7.

7.3 Contributions of the thesis

Contributions are discussed next with regard to the empirical content, theory, methods and context and practical application. The findings of this study are consistent with certain areas of the literature, contradict other areas of the literature and address some areas not previously focused on in empirical studies.

7.3.1 The research questions and contributions

As noted in Chapters 1 and 4, this research is based on a case study method with the core research objective of how and why the characteristics of a PMS interact with the role of the MA and *vice versa*. Thus, this study partly contributes to answering Parker's (2012, p. 66) and Schleicher *et al.*'s (2018, p. 2230) stipulations on outstanding interdisciplinary or interdependence-oriented research by providing a model of interaction between the characteristics of a PMS and the role of the MA. Four rSQs emerged to contribute to this core research objective. For this study, there was initially a need to establish (in numerical order):

rSQ1) What are the perceived roles of the MA?

rSQ2) What are the perceived key characteristics of a contemporary PMS?

After answering these contextual rSQs in the first part of Chapter 6, the core research objective was investigated by establishing:

rSQ3) How do the characteristics of a PMS interact with the role of the MA and vice versa?

rSQ4) What are the influential factors (or not)?

The answer to the latter questions lies within the second part of Chapter 6 and is brought together here. Findings and contributions are discussed in this section in detail in the order of the rSQs.

With regard to rSQ1, prior research suggests a heterogeneous discourse about the roles of the MA. Empirical data of this study underpin all three roles of scorekeeping, controlling and business support (Järvenpää, 2007) from an MA's and OM's view (Section 6.2.1). However, the accounting literature still struggles with regard to a dichotomy of roles of the MA (Friedman and Lyne, 1997; Siegel, 2000; Burns and Baldvinsdottir, 2005; Byrne and Pierce, 2007; Morales and Lambert, 2013) versus a more detailed classification of roles of the MA (Kuepper, Weber and Zuend, 1990; Chapman, 1997; Järvenpää, 2009; Lambert and Sponem, 2012). In the light of this discussion, indications can be found in this study that, from an MA's point of view, a more detailed classification of the activities appears to be necessary which leads to the

broad range of roles elicited in the literature (e.g. historian, watchdog, advisor etc.). From an OM's point of view, however, the function of the MA can very much be reduced to the dichotomy of scorekeeping (or non-value-adding) function and business support (or value-adding) function (see Section 6.2.1). Secondly, this study develops the current literature in terms of the distinguished MAs' and OMs' views whereas most of the existing literature analyses roles in a relatively undistinguishable way (Byrne and Pierce, 2007; Goretzki, 2012; Lambert and Sponem, 2012). This may also be a reason for the heterogeneous discourses in management accounting research. Thus, this study categorically distinguishes the MAs' view, the OMs' view (Sections 5.2.2 and 5.3.2) and a comparison (Section 6.2). Thirdly, this study is in line with Chang, Ittner and Paz (2014) who claim that the MA's roles tend to be complementary rather than exclusive (Section 5.2.2). Fourthly, empirical data suggest that role consensus among the respective MAs and OMs is strong for the business support role. On the other hand, role conflict appears to be mainly caused by diverging interests of further stakeholders (Section 6.2.2). This impact of further stakeholders is taken up again later when discussing rSQ4.

RSQ2 is based on Ferreira and Otley's (2009) PMS framework with its 12 characteristics, split into core and enabling characteristics. The influential factors of culture and context – even if supported by the study data – are considered as contingent factors and are not the focus for rSQ2, but taken up for rSQ4. The study data suggest minor shifts and amendments to Ferreira and Otley's (2009) structure of core and enabling characteristics – with regard to organisation structure enlarged to organisational factors, information flows complemented by their efficiency and further complementary characteristics (see Figure 6.1). Thus, the study details the following core characteristics of a PMS: vision/mission, KSFs, strategies and plans, key performance measures, target setting, performance evaluation and reward systems. The enabling characteristics on the other hand are as follows: organisational factors, information flows and their efficiency, PMS use, PMS change and strength and coherence. Additionally, the data collection of this study contains a further operationalisation of these 12 characteristics (Sections 5.2.3 and 5.3.3). Ferreira and Otley (2009, p. 276) themselves acknowledge that empirical evidence, especially from case study research, “is required to assess its [the framework's] robustness and validate

its adequacy”. This case study analysis responds to this request. Furthermore, four distinguishable strength and coherence models, A – D, of PMS frameworks (three systems and one package) are analysed and developed from the data (see Section 6.3.3 and Figures 6.2 to 6.4). To sum up on rSQ2, the study mainly supports and develops the existing body of literature based on Ferreira and Otley’s (2009) PMS framework.

Having analysed the roles of the MA (rSQ1) and investigated the key characteristics of a PMS (rSQ2), this study further investigates the interaction between the characteristics of a PMS and the role of the MA (rSQ3). Based on Byrne and Pierce’s (2007) antecedents, Ferreira and Otley’s (2009) PMS framework and Katz and Kahn’s (1978) role episode model, this study provides empirical indications of this interaction and sheds further light on the detailed ways of interaction. It develops an updated role episode model with a detailed explanation and operationalisation of the processes of role-taking and role-making (Section 6.4) and the overall sequence of steps in the role episode model (Figure 5.1). It thus combines the role episode model with frameworks of management control and management accounting literature and contributes to interdisciplinary research.

With regard to the influential factors of the interaction (rSQ4), seven factors are deemed most notable across the cases. Five of them support or develop the current PMS or role episode literature and two of them are potentially new. Context and culture support the contingent variables of PMS literature (Ferreira and Otley, 2009); attributes of the person, interpersonal factors and enabling PMS characteristics (developing organisational factors) support the surrounding factors of the role episode model (Katz and Kahn, 1978). Resources are considered an additional aspect of organisational factors, particularly with regard to human resources, budgetary resources and IT resources (see Section 6.5.2). The potentially new factors are the impact of further stakeholders and role consensus/conflict. Further stakeholders or the role set are particularly influential in terms of their potentially conflicting expectations about the role of the MA. Contradictory expectations between OMs and further stakeholders may create role ambiguity and lead to role conflict if not clarified (see organisation 15 and Figure 6.5). Thus, further stakeholders have a strong influence on role consensus/conflict for the MA (see Section 6.2.2) and influence the potential efficiency

and role identification of the MA. Furthermore, the study adds structures to Byrne and Pierce's (2007) antecedents of the roles of the MA (see Figure 6.6) and also adds further stakeholders, role consensus/conflict as well as interpersonal factors. Additionally, the study adds a further dimension to the influential factors by distinguishing between enabling and blocking factors and by giving first explanations about the respective impact (Section 6.5.2). The overall updated role episode model including potential influential factors is depicted in Figure 6.7.

To conclude, this study is in line with the heterogeneous discourse about the roles of the MA (rSQ1) and develops Ferreira and Otley's (2009) definition of a PMS (rSQ2). It also adds to the management accounting and management control literature by looking at the interaction of the characteristics of a PMS with the role of the MA and *vice versa* (rSQ3). It adds to the literature by developing four models of PMS implementation, by analysing the importance of the enabling PMS characteristics for the business support role of the MA and by developing an updated role episode model. It also adds to the influential factors (rSQ4) with further stakeholders, role consensus/conflict and by distinguishing between enabling and blocking influential factors.

7.3.2 Further contributions

Beyond the contributions mentioned in Section 7.3.1, this study makes three theoretical contributions to the larger body of literature primarily in the domains of management accounting and role theory.

Firstly, by conceptualising PMS characteristics as a surrounding factor, the study develops Katz and Kahn's model (1978) by providing an enhanced insight into the interaction of PMS characteristics with the role of the MA. Parker's (2012) claim to investigate how management accounting and performance management interact is partly theorised by this study and further influential factors are identified. An updated role episode model which describes the interaction is developed (Figure 6.7). By further operationalising Ferreira and Otley's (2009) PMS characteristics this study successfully integrates the PMS characteristics and management accounting into the role episode model. It thus develops existing management accounting literature in terms of applying

role theory in a qualitative study on management accounting – the majority being quantitative (see Appendix C and Section 3.2.7). In addition, the role-taking and role-making process as well as the concept of role consensus/conflict are supported by the study data in a management accounting context (Sections 6.2 and 6.3). To conclude, this study applies, supports and adds to the role episode model in the management accounting area by qualitatively investigating and developing new aspects for this context.

Secondly, this study develops interdisciplinary research by integrating management control and management accounting literature. Euske, Hesford and Malina (2011, p. 260) explain that

[...] research in management control would be better served if accounting and management scholars draw upon each other's work.

This phenomenon, frequently termed tribalism, is not considered beneficial for the advancement of knowledge as excellent ideas are developed most frequently when concepts from one field are brought into unfamiliar territory (Euske, Hesford and Malina, 2011). This study, to some extent, brings together the management accounting and PMS literature. After an extensive literature review on roles of the MA and on PMS characteristics (Chapter 2) the study uses the role episode model (Chapter 3) to bring both bodies of knowledge together and to investigate the interaction (Chapters 5 and 6). This develops new ideas particularly in Chapter 6 in terms of the comparative analysis. Finally, the study adds to Katz and Kahn's (1978) role episode model by developing further influential factors with additional stakeholders and role consensus/conflict, as well as context and culture in the management accounting context (see Section 6.5).

7.3.3 Method and contextual contributions

This study also adds to the body of knowledge on methods utilised in qualitative management accounting research and contributes in terms of contextual aspects. Based on semi-structured interviews, this study supports qualitative case study type research. A potentially new method in the field of management accounting may lie in the integration of concept mapping (Appendix E) as part of the data collection process at the end of the interview as a means of triangulation. This method was very useful in terms of

supporting the interview transcripts and in revealing additional information. For this study, the influential factor of further stakeholders was uncovered based on the findings of the concept maps (see Sections 6.4 and 6.5). A further potential novelty or development in management accounting methods is the sampling of respectively one matched pair of 16 different organisations with 32 interviews. Byrne and Pierce (2007) also use 16 different organisations but come up with 36 interviews and do not reveal details about the matching process apart from the information that OMs are on a manager level in the MA's organisation. As Byrne and Pierce (2007) also note convenience sampling, it can thus be assumed that there is not necessarily a direct working link between MAs and OMs. Pierce and O'Dea (2003) also use MAs and managers but with a mixed methods design and without referring to the matching within the organisation. A third potential contribution to methods in the management accounting field is the categorical within-case and cross-case analysis. Cross-case means a comparison between the MAs' case and the OMs' case, between the MA and OM of the same organisation as well as inter-organisationally.

With regard to context, this study mainly develops existing studies. Byrne and Pierce (2007) investigate multinational companies based in Ireland across different industry sectors. Pierce and O'Dea (2003) investigate indigenous and multinational companies in the UK. Thus, this study develops these Anglo-Saxon contexts to multinational companies in Germany. Other studies mainly focus on comparative contextual studies (Ahrens, 1999) or on unbalanced mixed panels between MAs and managers (Ahrens, 1997). In addition, this study develops the context of typical studies based on primarily MAs' views or mixed views (Lambert and Sponem, 2012) to a context of equal parity of both views.

7.3.4 Practical contributions

By gaining a fine-grained understanding of the interactions of characteristics of a PMS with the role of the MA, this study develops knowledge that can generally inform practitioners. The findings of this thesis show practical implications for MAs and OMs collaborating on a PMS as well as further stakeholders.

Firstly, the potential implications for practitioners working as MAs are the most interesting. Based on the role analysis of the MA in an OM's view, the study reveals (Section 6.2) that the OM distinguishes mainly between value-adding and non-value-adding activities of the MA. This means that the scorekeeping and controlling activities of the MA are primarily not acknowledged by the OM. As a consequence, the MA could plan to make these activities as efficient as possible or to use reporting shared service centres. This is also supported by the fact that resources are considered an important influential factor (Section 6.5). In addition, it is recommendable for the MA to be aware of and try to align further stakeholder or other important role set interests as ambiguous interests can lead to role conflict and prevent the MA from efficiently performing his job (Section 6.2). A further important point for the MAs is the awareness of core and enabling characteristics of a PMS (Section 6.3) and their potential impact on the role of the MA. Thus, if MAs target the role of business support, they can take from this study that they should focus primarily on designing, discussing and aligning the enabling characteristics of a PMS rather than working on the core characteristics (Section 6.4). Role-making and starting the role episode model with arrows 2a or 2b can be considered a supporting factor for transforming the MA's role to a business support function (Figure 5.1). With regard to influential factors, it is important for the MA to keep in mind the strong impact of further stakeholders and to look for a best possible alignment (see role conflict above). In addition, not only individual and interpersonal factors should be taken into account, but also organisational factors (particularly resources), further stakeholders, role consensus/conflict, culture and context. If necessary, the knowledge about the enabling and blocking character of these factors should be openly discussed with the stakeholders in order for the MA to work in clear conditions (Section 6.5).

Secondly, the potential implications for OM's and stakeholders are equally interesting to analyse. Based on the assumption that OM's want efficient support from their MAs, OM's should also be proactively alerted to potentially different stakeholder interests and should ideally support the MA with the clarification. The same applies to the stakeholders who should proactively look for an alignment of interests. Otherwise, role conflict may dominate the relationship as seen in organisation 15 (Section 6.2.2). As a consequence, the business support role will not be facilitated in this case as more time is

spent discussing the different philosophies than working on a common PMS. In addition, as claimed by OM5, it is essential for the business support role of the MA to consider the MA as a “friend” and to actively involve the MA in the PMS design and alignment. The same applies to further stakeholders. Again, it is important to keep in mind the distinction between core and enabling characteristics of a PMS and to focus on the enabling characteristics as drivers of the business support role of the MA. Also, the study provides indications that there are three strength and coherence models of PMSs as a framework: PMSs implemented across the organisation (A), corporate PMSs (B) and functional PMSs (C). The study reveals that it requires a lot of discipline and time-consuming discussions to particularly keep a PMS implemented across the organisation working well. However, the impact on the business support role of the MA is based on the enabling characteristics part. Thus, from an efficiency perspective and from an integration of the MA perspective, a corporate PMS model without deployment below (model B) or a functional PMS (model C) are widely sufficient (Sections 5.2.3 and 5.3.3). In addition, these models require less discipline and efforts from the organisation and are thus considered leaner solutions, also in terms of efficiency of the other departments involved.

Thirdly, the study sheds some light on the contribution of a single performance management mechanism on the role of the MA and on overall control system effectiveness. It provides a comprehensive approach to performance management design and use and might also be used as a diagnostic tool by practitioners (Ferreira and Otley, 2009, p. 279). Then, it studies the impact of the characteristics of this comprehensive framework on the role of the MA. In addition, the study examines OMs’ and MAs’ perceptions of the conflicts inherent in the MA’s role. It points out some factors which may be associated with these role conflicts and gives indications of why some MAs appear to be better equipped than others to overcome these conflicts.

Finally, this study also offers practical recommendations on how characteristics of a PMS may automatically generate or facilitate the role of the MA and how this interaction may develop its impact for role change. From this, an intended role change of the MA to business support may be managed more efficiently. Potentially contradictory forces (influential factors – see Section 6.5) in the role change process may be transparent and potential obstacles may be eliminated beforehand.

7.4 Limitations

The key findings, conclusions and contributions of the study must be interpreted in light of the limitations of the study. This section does not repeat the limitations mentioned in Section 3.2.6 with regard to role theory and the role episode model. It describes more general limitations for the interpretation of the findings of the present thesis.

A first limitation of this thesis is the interpretive case study. Such a study has several inherent limitations per its methodology and method. Thus, the extent to which it is possible to draw wider generalisations from the research is limited (see Section 4.10). The findings provide insights into the interactions between the characteristics of a PMS and the role of the MA. It is not possible to determine the extent to which such findings would be replicated elsewhere. For example, points referring to the discussion “on equal terms” (see Section 6.2.2) may not have been mentioned by one of the interviewees. This can be due to the structure of the interview which always asked for precise phenomena of the type “facts and figures”. Also the interviewer did not ask explicitly for the personal relationship with the counterpart. However, the objective of the study has never been to offer empirical generalisations but to develop an in-depth understanding of the interaction of a PMS with the role of the MA. This should serve to enhance the understanding of similar processes in other contexts and settings but such generalisations could not be statistically inferred.

A second limitation refers to the interpretive nature of case study-type research, in that interpretations of empirical data may not be free from the influence of the researcher. The lack of anonymity may result in potential errors arising from the interviewee’s reluctance to confess to any personal experiences which may reflect badly on them.

However, the managers were guaranteed their anonymity and appeared to speak freely during the interviews (see Section 4.8). Qualitative data gathering and analysis inevitably result in the use of some judgement and subjectivity. Case study methods in particular have been challenged for their susceptibility to interview bias, the reliability of documentation and the researcher's own definition of the boundaries of research design (Yin, 2009). It is impossible to completely eliminate these limitations, but they were addressed by the researcher to the best of her knowledge in the context of a rigorous research design and the application of quality criteria which is documented in Chapter 4.

A third limitation is in the application of Katz and Kahn's (1978) role episode model, which is possibly a dated model. It was adopted as a means of analysis once the data of this study were gathered and modified according to the data analysis. Even if it appears to be out-dated, it is still acknowledged in management accounting literature (see Section 3.2.7). As listed in Appendix C, the role episode model was most widely used in management accounting literature in the 1990s and 2000s. Consequently, it is a more current model in management accounting literature than may be imagined at first sight. Finally, it was a useful framework for rSQ1 and rSQ2 of the present thesis (see Chapters 5 and 6).

A fourth limitation of the study is the lack of deep analysis of the intercultural context of European organisations. On the other hand, cultural aspects are not part of the research objective and are consequently not deeply analysed in this study but considered an influential factor (Section 6.5). A further deficiency may be the lack of more extensive behavioural analysis regarding roles. Otherwise, an analysis of role behaviour would require different methods based on observation which was never a target for this study. An operationalisation of the role based on activities as in this study could be further complemented by a more behavioural and observational approach in the future. With regard to context, the interviewed panel may be too heterogeneous in terms of sectors of activity in order to draw coherent conclusions. On the other hand, this aspect is enriching for the study as a broad industrial and service context is analysed. The practical impact of the research may be restrained, as it could not be investigated if reversing the findings of the enabling or blocking dimension of the influential factors

would also reverse the enabling or blocking impact of the factor. All the above, leads to potential fields of future research as discussed in the next section.

7.5 Avenues for future research

This study offers a number of directions for future research. These avenues for future research will – where necessary – be explained in the context of the findings. Firstly, much has been written about the roles of MAs in management accounting literature (see Chapter 2). Regarding MAs, questions have been raised as to whether their role develops towards a business support function (Burns and Baldvinsdottir, 2005), whether the role of the MA becomes increasingly redundant (Cooper, 1996; Pierce, 2001) or whether MAs are nothing more than corporate cops (Siegel, 2000). Järvenpää (2007) describes three roles of scorekeeping, controlling and business support which have been supported by this study. These findings reveal that OM's use accounting information in a way that is far less formal and more improvised than much of what has been reported in the literature. If not supported by the MAs, OM's even generate their own measuring and information systems which are considered relevant to steer the business. This is also revealed by this study where organisations 11 and 13 introduced their own sales support functions for their own needs. More insight is needed into this increasingly informal and customised generation of additional information, including an understanding of the relationship between this and accounting information relied upon. This is also in line with Pulakos and O'Leary (2011) who stipulate further research on the importance of informal aspects of a PMS in contrast to formal aspects.

Second, the findings of this study do not fully examine the organisational and personal conditions of an MA, which are associated with a business support role. Additionally, the findings suggest the link between the use of the characteristics of a PMS and the role of the MA. The skills and competencies of the MA, though important, are not the only determinants of an effective business support function. An open and collaborative management accounting function will not guarantee that an MA will be an effective business supporter. Managers throughout the organisation also need to accept the MA's enhanced role which requires them to become knowledgeable of finance (e.g. organisation 5). Future research could further complement this study by investigating, in

detail, how the OM deals with the enhanced role of the MA. This could also include the study of impact of contextual factors and particularly the influence of culture and subcultures (see Section 4.7.3).

Third, it would complement this study and Ferreira and Otley's (2009) PMS framework to further operationalise the characteristics of a PMS. Ferreira and Otley (2009) themselves acknowledged the operationalisation needed in further case study research. Based on Sections 5.2.3, 5.3.3 and Figure 6.1, more case study research is needed in order to complement and enrich the data. Once further operationalisation is done, the impact on the interaction with the role of the MA can be added to the work here.

Fourth, it would be particularly interesting to follow an organisation with role conflict or a strong role change between OMs and MAs over a longer period in a longitudinal in-depth case study. In addition, it would complement the findings to include further stakeholders or the total role set in future studies. Further matched pairs of a company could also be interviewed in order to gather more findings about the antecedents and consequences of a particular organisation. In particular, in the underlying study sample, organisation 15 could be researched further on stakeholders (CFO, parent company) to gain additional details on the stakeholders' view and potential further influential factors and reasons for role conflict.

Fifth, as claimed by Euske, Hesford and Malina (2011), interdisciplinary research between management accounting and management control is under-developed. One of this study's contributions is the presentation of a method with which the issue can be examined. More research is needed in order to develop a better understanding of how accounting can be used to support OMs with their PMS work in organisations. This study suggests that this might be best achieved through a further exploration of the implications of the roles of the MA in a PMS context. Thus, the findings here can be complemented with further research based on a balanced interdisciplinary panel (equal share of matched pairs). Larger empirical samples with more participants could even further enrich the data.

Sixth, further studies could operationalise the updated role episode model (Figure 6.7) by potentially including additional aspects. A further open avenue for research is additional information on the disabling of blocking or enabling factors (see Section 6.5). There is no clear indication from this study, that reversing the blocking or enabling factors leads to the contrary effect. It can only be assumed. Thus, further research is necessary for the investigation of this phenomenon.

Seventh, all the developed influential factors, particularly the impact of further stakeholders, role consensus/conflict and context and culture (see Section 6.5) are potentially subject to an application to other contexts. Thus, they leave room for further research in other disciplines applying the lens of the role episode model. Further research could potentially enlarge the original role episode model with its three surrounding factors by additional factors as proposed by this study. If supported by other disciplines, the model can potentially be enlarged and updated in a more general way.

Eighth, the qualitative methodology and case study method have some shortcomings as noted in Section 7.4, which open the field for further quantitative (confirmatory and generalisable) or other qualitative research. Re-designing the study by employing different research methods, such as a quantitative approach or a more in-depth qualitative single case study, for any of the above suggestions could prove fruitful. Further change aspects of the role of the MA could be investigated based on a similar methodology – analysing MAs and OMs – but following, for example, one company in depth over a longer period of change (longitudinal case study). As mentioned in the limitations, further studies could also be supported by further observations as part of the case study and an additional focus on behaviour of the MAs instead of merely analysing activities. Other internal stakeholders as well as the total role set could also be incorporated, for example by studying boards of directors, HQ, CFOs etc. to examine the interaction between characteristics of a PMS and the role of the MA. The analysis could also be expanded by a quantitative study supporting and confirming the interaction of Figure 6.7 and by easily integrating further stakeholders.

Ninth, Section 6.5.3 and Appendix M point to the necessity of further investigation of the impact of beyond budgeting on the interaction of the PMS characteristics with the role of the MA. This investigation could also be used for further accounting tools and methods such as activity-based costing. Thus, the underlying structure of the PMS characteristics and the updated role episode model could be used as a structure in order to investigate and explain the impact of these tools on the role of the MA further.

Last but not least, as this study employs a particular theoretical approach with role theory, other theoretical lenses could be adopted in future studies. For instance, one reason for initially considering role theory in this study was fully capturing the dual structure of the study (see Section 3.2). Alternative theoretical approaches that embrace further factors or further players could be worthwhile pursuing. Systems theory (looking at the organisation as a whole including further stakeholders or the role set) or contingency theory (looking at further influential factors) could be potentially worthwhile lenses. To conclude, this study invites future researchers to continue the development of this important line of enquiry in one or the other direction. Future research could therefore focus more directly on this outcome, which would support, contradict or build on the understanding developed by this particular study.

7.6 Final words

The present thesis presented a comparative case study of the interaction of the characteristics of a PMS with the role of the MA. It analysed influential factors of why roles of the MA are affected by the characteristics of a PMS. In Chapter 1, the research objective was presented based on the author's curiosity as to how the characteristics of a PMS might affect the role of the MA and *vice versa*. The present thesis set out with four research guiding sub-questions (see Section 1.2) which proposed to investigate (1) the roles of the MA, (2) the key characteristics of a PMS, (3) how the key characteristics of a PMS interact with the role of the MA and (4) what the influential factors of interaction are. Chapter 1 also outlined the iterative process of this thesis, in particular describing how the methodology and method was refined as the empirical work progressed (see also Chapter 4).

The present chapter has summarised this thesis and its contributions towards the research objective. It has also highlighted contributions towards extant management accounting, PMS and role theory research. Some questions remain to be answered, but these are not addressed here and will be potentially explored through further research. To put the present work and many other research processes in the words of Johann Wolfgang von Goethe's dictum on metaphysics:

Man is not born to solve the problem of the universe, but to find out where the problem begins and then restrain himself within the limits of the comprehensible.
(as quoted in 1850, p. 272)

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APPENDICES

Appendix A

Analysis table of management accounting literature on roles of the MA clustered by contextual background and year of publication

Contextual background	Author (year)	Scorekeeping function/ Information-based	Controlling function/Target profit-based and decision support-oriented	Controlling function/ Coordination-based	Business support function/ Rationality-based	Beyond
GER	Kuepper, Weber and Zuend (1990)	Registrar	Navigator			Innovator
	Weber and Schaeffer (1999)	Information function	Target setting function	Coordination function		
	Bramseman, Heineke and Kunz (2004)		Decision orientation	Coordination orientation		Behaviour orientation
	Nevries (2007)	Assumption control	Result control	Progress control		
	Ernst <i>et al.</i> (2008)	Information-oriented/Data administrator	Target profit-oriented/Navigator	Coordination-oriented/Consultant	Rationality-oriented/Advanced navigator	
	Messner <i>et al.</i> (2008)	Information-based		Coordination-based	Rationality-based	
	Daum (2008)	Administrative duties	Steward/Navigator			
	Goretzki, Strauss and Weber (2013)	Beancounter/ Reporter		Navigator	Business partner/Innovator	
SCAN	Mouritsen (1996)	Book-keeping/ Administrating	Banking/Controlling	Consulting		
	Granlund and Lukka (1997 / 1998)	Historian	Watchdog	Consultant/Advisor		Member of mgmt team/Change agent
	Järvenpää (2007)	Scorekeeping	Control		Business support	
	Järvenpää (2009)	Regulative	Normative	Cultural cognitive		
	Hyvönen, Järvinen and Pellinen (2015)	Beancounter/ Discrete			New business partner	
FR/IT	Zoni and Merchant (2010)	Number cruncher			Highly involved	
	Lambert and Sponem (2008/2012)	Discrete	Foolproof/ Safeguarding		Partner	Omnipotent
	Morales and Lambert (2013)	Book-keeper			Business-oriented	
UK	Burchell <i>et al.</i> (1980)	Ritualistic role/ Mythical role/ Legitimizing-retrospective role/ Disciplinary role	Political bargaining role/Rational instrumental role/ Symbolic role/ Disciplinary role	Repressing dominating ideological role		
	Hopper (1980)	Book-keeper		Service aid/ Customer service		
	Evans <i>et al.</i> (1996)	Traditional role				Change enabler/ Catalyst
	Friedman and Lyne (1997)	Beancounter		New MA		
	Chapman (1997)	Analyzer/Reactor		Defender	Prospector	
	Coad (1999)	Scorekeeper/ Controller		Business support/ Internal consultant		
	Ahrens and Chapman (2000)	GER: Objectivity/ Report interpretation		UK: Internal consultant		
	Scapens and Jazayeri (2003)	Record keeper		Internal consultant		
	Burns and Baldvinsdottir (2005)	Scorekeeping/ Clerical type financial mgmt				Hybrid MA/Change agent
IE	Byrne and Pierce (2007)	Number cruncher/ Beancounter			Business partner	
US	Simon <i>et al.</i> (1954)	Scorekeeping	Attention-directing		Problem-solving	
	Davis (2000)	Scorekeeping/ Recording	Decision-making	Analyst		
	Siegel <i>et al.</i> (2000 / 2003)	Old accountant			Business partner	
	Holtzman (2004)	Information processors			Strategic business advisor	
...	...					

Appendix B

Summary table: PMS literature review

Author	Year	Title
Anthony	1965	Planning and control systems: a framework for analysis
Lowe	1971	On the idea of a management control system: integrating accounting and management control
Bedeian and Giglioni	1974	A conspectus of management control theory: 1900-1972
Amigoni	1978	Planning management control systems
Ouchi	1979	A conceptual framework for the design of organizational control mechanisms
Flamholtz, Das and Tsui	1985	Toward an integrative framework of organizational control
Simons and Merchant	1986	Research and control in complex organisations: an overview
Anthony	1988	The management control function
Euske, Lebas and McNair	1993	Performance management in an international setting
Tsoukas	1994	What is management? An outline of a metatheory
Otley, Broadbent and Berry	1995	Research in management control: an overview of its development
Evans <i>et al.</i>	1996	Who needs performance management?
Langfield-Smith	1997	Management control systems and strategy: a critical review
Harrison and Mc Kinnon	1999	Cross-cultural research in management control systems design: a review of the current state
Guilting, Cravens and Tayles	2000	An international comparison of strategic management accounting practices
Nørreklit	2000	The balance on the balanced scorecard a critical analysis of some of its assumptions
Chenhall	2003	Management control systems design within its organizational context: findings from contingency-based research and directions for the future
Nørreklit	2003	The balanced scorecard: what is the score? A rhetorical analysis of the balanced scorecard
Nixon and Burns	2005	Management control in the 21st century
Neely	2005	The evolution of performance measurement research: developments in the last decade and a research agenda for the next
Henri	2006	Management control systems and strategy: a resource-based perspective
Widener	2007	An empirical analysis of the levers of control framework
Herath	2007	A framework for management control research
Cadez and Guiling	2007	Benchmarking the incidence of strategic management accounting in Slovenia
Malmi and Brown	2008	Management control systems as a package - opportunities, challenges and research directions
Cadez and Guiling	2008	An exploratory investigation of an integrated contingency model of strategic management accounting
Busco, Giovannoni and Scapens	2008	Managing the tensions in integrating global organisations: the role of performance management systems
Ferreira and Otley	2009	The design and use of performance management systems: an extended framework for analysis
Broadbent and Laughlin	2009	Performance management systems: a conceptual model
Berry <i>et al.</i>	2009	Emerging themes in management control: a review of recent literature
Euske, Hesford and Malina	2011	A social network analysis of the literature on management control
Bredmar	2011	Theoretical foundations of the concept of management control: a references analysis
Cruz, Scapens and Major	2011	The localisation of a global management control system
Strauss and Zecher	2012	Management control systems: a review
Hewege	2012	A critique of the mainstream management control theory and the way forward
Franco-Santos, Lucianetti and Bourne	2012	Contemporary performance measurement systems: a review of their consequences and a framework for research
Bredmar	2012	The meaning and development of the concept of management control: an etymological study
Carenys	2012	Management control systems: a historical perspective
Cadez and Guiling	2012	Strategy, strategic management accounting and performance: a configurational analysis
Guenther	2013	Conceptualisations of 'controlling' in German-speaking countries: analysis and comparison with Anglo-American management control frameworks
Fullerton, Kennedy and Widener	2013	Management accounting and control practices in a lean manufacturing environment
Grabner and Moers	2013	Management control as a system or a package? Conceptual and empirical issues
Demartini	2014	Performance management systems
Melnyk <i>et al.</i>	2014	Is performance measurement and management fit for the future?
Cohanier	2015	What qualitative research can tell us about performance management systems
Otley	2016	The contingency theory of management accounting and control: 1980 – 2014
Franco-Santos and Otley	2018	Reviewing and theorizing the unintended consequences of performance management systems
Schleicher <i>et al.</i>	2018	Putting the system into performance management systems: a review and agenda for performance management research
Cooper, Ezzamel and Robson	2018	The multiplicity of performance management systems: heterogeneity in multinational corporations and management sense-making

Appendix C

Summary of management accounting literature based on role theory according to footnote 2; adapted from Fischer (2010, pp. 98–100) – updated with publications after 2010

Author	Year	Type	Details
DeCoster and Fertakis	1968	Empirical	Applies role theory to explore how superiors use budgets as a way of expressing their own patterns of leadership
Hopwood	1972	Empirical	Centers around role stress aspects of role theory; Investigates managers' responses to different supervisory styles, in particular to the use of accounting data in performance evaluation
Otley	1978	Empirical	Follows Hopwood (1972) in the examination of the effects of supervisory styles on managers' experienced job tension; Relies on role theory in terms of basic causal relationships (managers' inner states are depicted as intervening variables)
Hopper	1980	Empirical	Examines accountants' and managers' perceptions of management accounting roles under conditions of centralization and decentralization of the management accounting function; Identifies role stress emanating from accounting workflows
Senatra	1980	Empirical	Investigates role conflict and role ambiguity experienced by audit seniors in a large accounting company; Draws on role theory to develop a framework including consequences and sources of role conflict and role ambiguity
Hirst	1981	Empirical	Attempts to enlarge previous studies on the use of accounting performance measures (Hopwood, 1972; Otley, 1978) by the variable of task uncertainty
Collins	1982	Conceptual	Highlights accounting systems' usefulness in communicating role expectations, triggering motivation and communicating organisational climate
Collins, Munter and Finn	1987	Empirical	Draws on role theory to develop and test a research model on managers' role stress and game playing behaviours that are related to superiors' budgetary leadership style
Chenhall and Brownell	1988	Empirical	Examines the effects of participative budgeting on job satisfaction and performance; Depicts role ambiguity as intervening variable
Bamber, Snowball and Tubbs	1989	Empirical	Employs role theory to investigate the effects of audit structure (i.e. structured versus unstructured audit companies) on organisational characteristics which, in turn, are potential sources of role conflict and role ambiguity
Rebele and Michaels	1990	Empirical	Examines role stress experienced by independent auditors; Uses role theory to develop a causal model including several antecedent, outcome and moderating variables
Fogarty	1992	Conceptual	Uses key concepts from role theory to develop a framework for socialization of staff members in accounting companies
Jaworski and Young	1992	Empirical	Explores the relationship between three contextual variables (goal congruence, perceived peer dysfunctional behaviour, information asymmetry between superiors and subordinates) on subordinate dysfunctional behaviour; References role theory in order to develop hypotheses about the mediating effects of role conflict and tension
Dunk	1993	Empirical	Attempts to validate Hopwood's (1972) finding that managers' tension negatively influences their performance
Ross	1994	Empirical	Attempts to replicate previous studies on the use of accounting performance measures (Hirst, 1981; Hopwood, 1972; Otley, 1978); Additionally examines the moderating influence of trust
Abernethy and Stoelwinder	1995	Empirical	Investigates the conflict between the management of hospital professionals (physician and nurse subunit managers) and bureaucratic norms; Employs role theory to explain the dysfunctional effects of bureaucracy
O'Connor	1995	Empirical	Explores the moderating effect of cultural variables on the relationship between managers' budget participation and their experienced role ambiguity
Jönsson	1998	Empirical (qual)	Describes management as a cooperative game where communication is central to attention direction; Refers to a symbolic-interactive view of role theory that sees role concepts in a more communicative light
Abernethy and Brownell	1999	Empirical	Discusses the importance of accounting and budgeting for implementing strategic change; Interprets CEOs as the key agents of strategic change and declares the CEOs' overt behaviours to be "enacted role"
Viator	2001	Empirical	Employs role theory to examine the association between mentoring, three measures of role stress (role conflict, role ambiguity, perceived environmental uncertainty) and job performance as well as turnover intentions
Marginson and Ogden	2005	Empirical	Examines the extent to which budgets have a positive or "comforting" influence; Argues that managers confronted with role ambiguity may respond by becoming positively committed to achieving budgetary targets because budgets offer a source of structure and certainty
Marginson	2006	Empirical	Deals with the psychology of information processing; Focuses on the acquisition of clear information about expected role behaviours through communication channels and information media
Byrne and Pierce	2007	Empirical (qual)	Addresses the determination of the roles of management accountants; Identifies a set of antecedents, characteristics and consequences of roles
Hall	2008	Empirical	Argues that the effects of comprehensive performance measurement systems on managerial performance is mediated by role perceptions; Focuses on role clarity instead of role ambiguity
Hechter	2008	Conceptual	Discusses current literature on norms and normative control; References role theory in order to argue that distinctive positions in society are often defined normatively
Maas and Matejka	2009	Empirical	Employs role theory to explain business unit controllers' role conflict and role ambiguity when being confronted with dual responsibilities of supporting both local decision-making and corporate control over their business units
Burkert, Fischer and Schaeffer	2011	Empirical	Draws on role theory to analyse how role ambiguity and role conflict mediate the basic relationship of the application of the controllability principle and managerial performance; It shows that role perceptions completely mediate the relationship

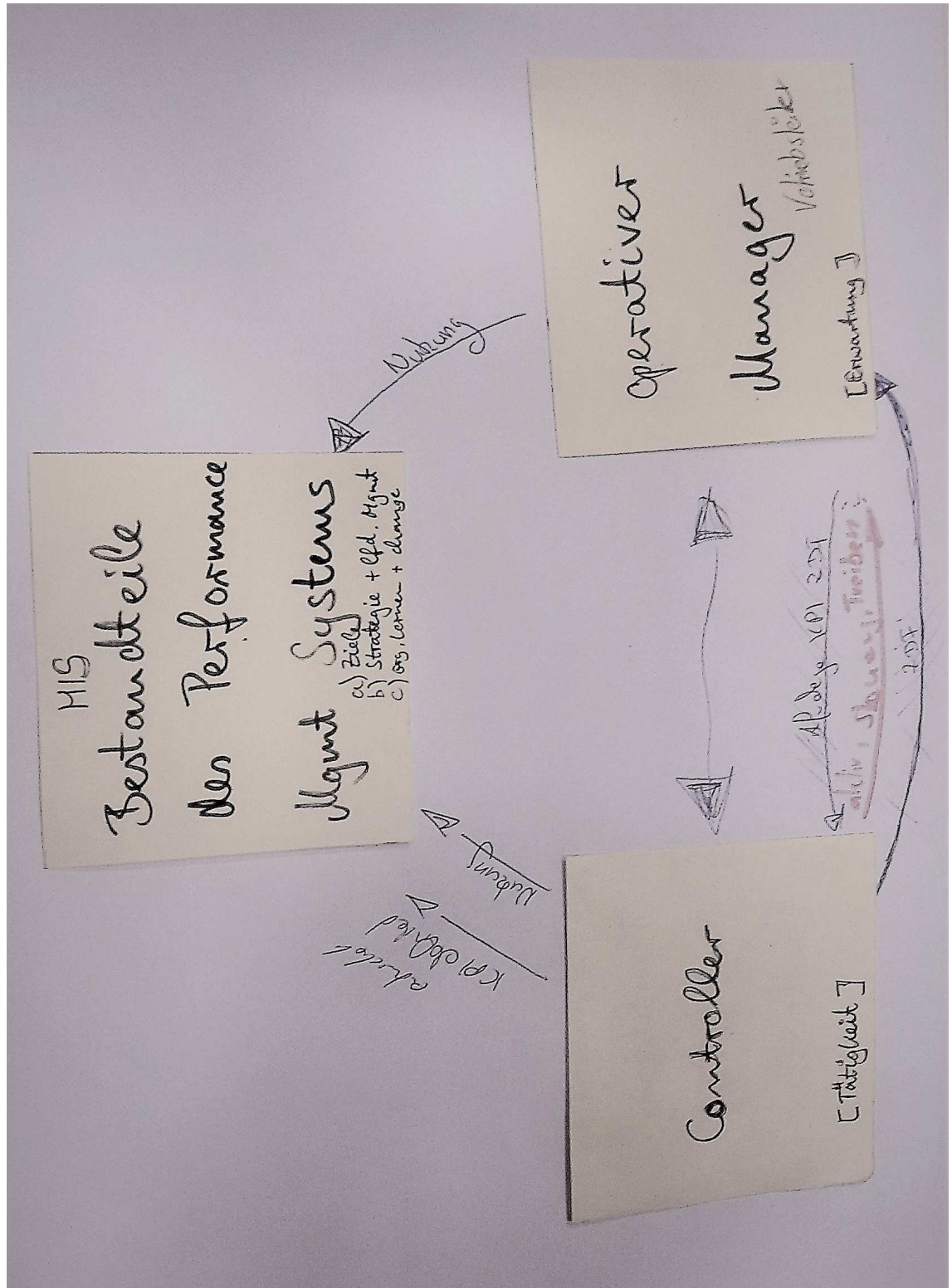
Appendix D

Interview guideline English – German

	English		German	
	Research sub-question	Operationalisation in interview	Research sub-question	Operationalisation in interview
	Warm-up/context	0) Tell me about yourself: your education, your professional career, your tenure, your current function etc....	Warm-up/context	0) Einleitend möchte ich Sie bitte, mir etwas über sich zu erzählen: Ihre Ausbildung, Ihren beruflichen Werdegang, Ihre Betriebszugehörigkeit, Ihre aktuelle Funktion etc.?
rSQ1	What are the perceived roles of the MA?	1) Please tell me about the detailed activities of a management accountant and the collaboration with operative management /management accounting management?	Wie wird die Rolle des Controllers wahrgenommen?	1) Dann wäre es nett, wenn Sie mir aus Ihrer Sicht die genauen Aufgaben eines Controllers und Ihre Zusammenarbeit mit dem operativen Management (MA/Controlling (OM)) erläutern könnten?
rSQ2	What are the key characteristics of a contemporary PMS?	2) a) What could you observe with regard to the expectations of operative management and the real activities of the management accountant? Which expectations are fulfilled and which are not? Examples? b) What are in your opinion the reasons for the unfulfilled expectations? 3) How do you define a Performance Management System based on your practical experience? Examples? 4) a) What are the performance management systems used in your company and what is the respective focus? Who is the respective responsible? b) How does the global performance management system in your company work (if any)?	Was sind die entscheidenden Merkmale eines heutigen PMS?	2) a) Was könnten Sie im Hinblick auf die Erwartungen des operativen Managements und die reale Tätigkeit des Controllers beobachten? Welche Erwartungen werde aus Ihrer Sicht erfüllt und welche nicht? Beispiele? b) Was sind aus Ihrer Sicht die Gründe für die unerfüllten Erwartungen? 3) Was stellen Sie sich basierend auf Ihrer praktischen Erfahrung unter einem Performance Management System vor? Beispiele? 4) a) Wie heißen denn die in Ihren Unternehmen verwendeten Performance Management Systeme und welchen inhaltlichen Fokus haben diese? Wer ist der Verantwortliche für das jeweilige PMS? b) Inwiefern gibt es aus Ihrer Sicht in Ihren Unternehmen ein übergreifendes Performance Management System und wie funktioniert dieses?
Definition PMS – to be shown		Performance Management System (PMS) is described as “the evolving formal and informal mechanisms, processes, systems, and networks used by organizations - for conveying the key objectives and goals elicited by management, - for assisting the strategic process and ongoing management through analysis, planning, measurement, control, rewarding, and broadly managing performance, - and for supporting and facilitating organizational learning and change” (Ferreira & Otley, 2009, S. 264)		Die formellen und informellen Mechanismen, Prozesse, Systeme und Netzwerke, die von Organisationen für die folgenden Ziele genutzt werden: - Übermittlung von Zielen, die durch das Management festgelegt wurden - Unterstützung des Strategieprozesse und laufenden Managements durch Analyse, Planung, Messung und Kontrolle - Management und Belohnung von Leistungserfüllung - Unterstützung und Förderung von organisationalen Lernen und Veränderung (Ferreira & Otley, 2009, S. 264)
rSQ2		5) a) Please explain in detail which characteristics of the PMS (according to definition) you came across in your practical experience? b) Would you add something to the definition?		5) a) Können Sie mir bitte im Detail erläutern, mit welchen Bestandteilen eines Performance Management Systems analog dieser Definition Sie in Ihrer beruflichen Laufbahn bereits Erfahrung machen konnten? b) Inwiefern würden Sie aus Ihrer Sicht etwas in der Definition ergänzen?
rSQ3 / rSQ4	How do these characteristics of a PMS interact with the role of the MA? And what are the influential factors (or not)?	6) In which aspects are the PMS linked with the daily work of the MA? Do you have an example? 7) a) Did you experience an implementation/other change of a PMS? Please explain based on an example what could be observed. It is important to state an example which you could observe as well before and after the change period. b) How was management accounting involved in this process? If not at all, please state another example. c) Who was the driver of the implementation/change and why? d) Can you please explain how the activity of the MA changed in this implementation/change period? How was the activity of the MA before, during and after the change? e) How did the satisfaction of operational management change with the changing activities of the MA? f) Please explain why these aspects of a PMS led to the described changes of the activities of the MA?	Wie beeinflussen diese Merkmale eines PMS die Controller Rolle? Und warum/warum nicht?	6) In welchen Aspekten sind aus Ihrer Sicht die soeben genannten Performance Management Systeme mit der täglichen Arbeit des Controllers verknüpft? Haben Sie jeweils ein Beispiel? 7) a) Inwiefern haben Sie eine Neueinführung/sonstige Veränderung eines Performance Management Systems erlebt? Erläutern Sie bitte an einem Beispiel, was Sie beobachten konnten. Es wäre wichtig ein Beispiel zu wählen, das Sie sowohl vorher als auch nachher zumindest kurz begleiten konnten. b) Inwiefern war das Controlling in diesem Prozess beteiligt? Wenn nicht, können Sie ein anderes Beispiel einer Neueinführung/Veränderung eines Performance Management Systems erläutern, wo auch das Controlling involviert war? c) Wer war der Treiber der Neueinführung/des Veränderungsprozesses und warum? d) Können Sie mir nun bitte erläutern, wie sich die Tätigkeit (Funktion) des Controllers Sie in dieser Neueinführung/Veränderungsperiode des Performance Management Systems (nämlich: XXX) entwickelt hat? - Wie war die Controller Tätigkeit (Funktion) vorher, wie währenddessen und wie danach? e) Inwiefern hat sich die Zufriedenheit des operativen Managements mit der Arbeit des Controllers in dieser Phase verändert? f) Erklären Sie bitte, warum diese Aspekte des Performance Management Systems zu der beschriebenen Veränderung der Tätigkeit des Controllers geführt haben?
rSQ3	How does the role of the MA affect the characteristics of a PMS? (feedback loop)	10) a) How did you experience that the function of the MA activity changed the PMS? Can you state an example? How did this happen? b) Why is this the case or why not?	Wie wirkt die Controller Rolle auf die Merkmale eine PMS ein? (Rückkopplung)	10) a) Inwiefern konnten Sie erleben, dass die Funktion des Controllers das Performance Management System verändert hat? Können Sie das einem konkreten Beispiel festmachen? Wie kam es aus Ihrer Sicht dazu? b) Warum ist das aus Ihrer Sicht so oder warum nicht?
Closing		11) We arrived at the end of the interview: did I forget anything that you would have liked to discuss regarding this topic?	Abschluss	11) Wir sind jetzt am Ende des Interviews angekommen: Habe ich etwas vergessen, das Sie zu diesem Thema gerne noch ansprechen würden?
	Concept mapping		Strukturlegetechnik	

Appendix E

Exemplary concept map – MA3



Appendix F

Relevant quotes: role perceptions of the MA (rSQ1)

	Exemplary quotes MA	Exemplary quotes OM
Scorekeeping	<ul style="list-style-type: none"> - Once per month the divisions are required by the central management accounting department. This is done by the CFO, he loves it. (MA1) - This means to provide reports, data, information and to present them in a way that that they provide the maximum content for the people who require and need them. (MA3) - [...] But the element information processing, this means preparation of KPI relevant information, is included. (MA4) - And then you have the monthly activities [...] where you have different indicators which are followed up monthly [...] and generally discussed [...]. (MA5) - The subsidiary management generally covers the support of the single subsidiaries but as well the [...] management consolidation [...] for the total [...] group. [...] This means, to be honest currently, rather to report. (MA9) - We are in charge of the group accounting [...]. We are responsible for the total consolidated monthly statements for the group, the management reporting to the board of management and to the shareholders [...]. (MA11) - Our daily business is mainly reporting. We provide data. (MA12) - The top [...] tasks are the reliability of the figures [...] especially for the closing. Then the plausibility checks. (MA15) - The first phase [...] is the data supply. (MA16) 	<ul style="list-style-type: none"> - [...] Prepares reports for the shareholders and the board of management (OM11) - Management accounting tasks are rather reporting-oriented [...] [and] mainly tasks from Italy [i.e. headquarters] are processed here. (OM13) - This [management accounting activity] is more reporting than controlling or support of the operative [departments]. [...] This is due to headquarters. I think that we take 80% of our time just to report figures to the hierarchy. (OM15)
Controlling	<ul style="list-style-type: none"> - If we follow these [pricing] conditions, it means the following revenue decrease vs. planning but still € x m of contribution margin. [...] If higher volumes are concerned, it [the decision] is not only with the head of sales but goes up to the CEO [...] so that nobody can say: we did not know. (MA6) - Each year [the planning] is different, each year I need to re-design the process. (MA10) - In July/August we prepare the sales [...] and from the operations side we were already finished in December. (MA12) - First inputs are in June [...] and the target is only distributed in February. (MA16) 	<ul style="list-style-type: none"> - One big field [of activity of the MA] is planning. [...] Operative planning, budget planning and strategic planning. For the budget planning we coordinate very closely. What are the assumptions? [...] I see myself in the same boat as Ms MA9. (OM9) - And then we have every three months a forecast and once a year a budget planning [which are coordinated by the MA]. (OM11) - That the MA helps me [...] to meet the planning figures despite the complexities. This is the expectation I have. (OM12) - A Plan-Actual-comparison can be done. (OM15) - And we had a very strong focus on forecasting, on budget figures and prognosis etc. And without the MAs you cannot do anything when working in sales. (OM16)
Business support	<ul style="list-style-type: none"> - Management accounting here means to secure overall control and steering. (MA1) - My MAs are involved in all the details [of the business] and can estimate precise gaps and work out measures. (MA3) - In the past, we focused much more on monthly reporting and [...] variance analysis. This has changed. Now we are more supporting the strategy process based on all the commercial questions [...]. (MA4) - My desk is directly located close to the shop-floor [...] We meet daily. [...] We measure the efficiency increase [...]. This means that we work on hourly levels. It has an advantage for the employees we talk to: everybody understands it [...] We want this as a daily view. [...] Each responsible can directly intervene. (MA5) - Where are actions that should be derived [...] What is the optimum portfolio? [...] Each MA of the business unit challenges strategies. [...] We have further strategic elements that we serve on a divisional level [...] where we evaluate potential business fields we want to look at. (MA8) - My main task is to ensure [profitable] growth. (MA10) 	<ul style="list-style-type: none"> - It is a kind of mixed function. From a control function to a strong support function mainly for the sales departments. (OM3) - And the next step [of excellence for a MA] is to generate own ideas what could be further improved. And analyse the impact of potential levers. As non-MAs we frequently do not know what the impact of a measure is. [...] I have experienced all kind of MAs. [...] But the latter is the MA I prefer personally. (OM4) - But I think that it is even more important that the MA gets a feeling for the strategy. And that he needs to support with his experience to steer it into the right direction [...] And this is why the MA needs an understanding of the influential factors of the business, and not only figure-based. [...] Be it that we move production to China or that we decide to produce on our own. There is of course always a MA who needs to support, who needs to reproduce the figures and who needs to calculate. (OM5) - They [the MAs] dispose of all the figures of the company so that they can deduce a decision. (OM6) - All that concerns strategy implementation, project kick-offs, profitability of projects, project stop criteria, location decisions, TCO decisions [...] The MA is everywhere [...] The MA is a strong support on operational level and a strong support for strategy implementation. (OM8) - And they [the MAs] are more in the process to link the normal activities of the P&L with the products and to have the link [...] cause and effect. [...] They [the MAs] are supporting [...] the mind in the future and anticipate what can happen. (OM10) - And this is the task I actually see with the traditional management accounting: to fulfil a supporting function. [...] And this handshake, this 'together' or these complementments, are for me the main tasks. (OM12)

Appendix G

Relevant quotes: key characteristics of a PMS (rSQ2)

Exemplary quotes MAs	
Vision/ Mission	<p>- [The company values] are vitality and sense of responsibility. [...] We have a company vision that we update every two years. And this vision is not a figure-based target. I take an example. I have a nice house in the mountains. There is a summit. My goal is to reach the summit with my friends. But no matter if I reach the summit or not I am having fun with my friends. We go together. It is more a meaning. [...] It is even unrealistic but it gives direction. [...] The rest changes. It is the only constant and comprehensive definition. [...] Nothing is written. We always try. The organisation works like that: trial and error. (MA10)</p> <p>- secondary data]</p>
KSFs	<p>- Meanwhile, since three or four years, [the company is] more explicit in its statements. Which KPIs are essential [...] and this is how the ten-ten developed. 10% turnover increase p.a. and 10% EBIT margin. And this ten-ten was complemented one year later by another ten. Turnover, EBIT and R&D ratio. So R&D expenses are important to us I would say. We are driving innovation, technological leadership and this is what we want to maintain. This means not to optimise EBIT by reducing R&D costs. So it is exciting to find an equilibrium between EBIT profitability, growth... [...] I already mentioned the Balanced Scorecard before, where we defined success factors. For each success factor we defined a KPI to reach. [...] And all this helps to make a strategy pursuable. (MA8)</p> <p>- We have two major targets for the [...] group [...] market share [...] and profitability. During strategic planning a target matrix is built with five dimensions (those of the Balanced Scorecard)[...]. (MA9)</p> <p>- And we have a so called cottage [...] where you find the overall targets for the company and below the enablers. [...] and the status is presented regularly: [...] did we reach the target to be market leader? Did we reach the target of double-digit growth etc.? (MA13)</p>
Strategies and plans/ Key performance measures	<p>- We are in charge of the top 50 indicators. They are discussed once a term with the departments. And will then be published in a report. [...] CO2, performance of IT systems, if the elevators run properly [...], cleanliness of the toilets, [...]. These are all topics we look at. This is where I see, if I push the cost side too hard, what happens on the other side? It needs to stay an integrated whole. (MA1)</p> <p>- Performance management is all figures: all KPIs that I have to steer the business and also dashboards. [...] We are about to develop a [...] dashboard where KPIs [...] can be split from top level to the bottom booking. This means that the head of division immediately recognises how all the functions performed and the department head can analyse his department. (MA3)</p> <p>- It is more the ongoing management what we mainly support here [...]. Through analysis [...] Were we able to implement the planned measures? Did it succeed? How do the single departments run? (MA5)</p> <p>- You basically come from strategic planning [...] then realise in the operative planning that you are still away from the strategic target that [...] was initially set. [...] Can we live with that – means that we get one's act together at the end or is the deviation so big that we need to readjust somehow? (MA6)</p> <p>- And this works through running actions, measures [...] and I need to check if I am on the right track. [...] And the question: how much can I dispatch in an organisation? [...] All issues are right and important. But to say: I already have [...] six and seven is impossible. [...] To follow the right measures. [...] Such mechanisms are very important for many companies. And definitely as well for us. (MA8)</p> <p>- Whenever we discover that we are behind our targets [...] we need to develop measures or strategies to compensate [...]. (MA11)</p> <p>- Management accounting gets involved when we need to financially evaluate the top-down generated targets. [...] It is more about the long-term targets that we support in terms of: is the investment profitable [...], what should we do differently? [...] And for the ongoing management [...] we have our daily tracking of turnover and sales volumes [...]. Then we have our monthly meetings to show where we are. (MA13)</p> <p>- The strategy process is done during the operative planning [...]. Two years ago we started with Hoshin Kanri concepts in order to link the targets of different departments. [...] It works very well meanwhile. (MA14)</p>
Target setting	<p>- And for the strategy process and ongoing management I try to introduce relative targets. This is all about this Hoshin Kanri method. [...] We will fix these figures for the three year and long-term planning and will integrate it into the budget planning next year. And only for top indicators – perhaps 10-20. (MA1)</p> <p>- [...] The management determines the vehicle volume and the result [...] and this is the target with which we measure in the report. (MA2)</p> <p>- It is such a model that gives us the target business plan [...] in a short-term view, and simultaneously monitors if we follow our strategic targets in a long-term perspective. [...] The topic policy deployment and conveying objectives is in my view an essential element. [...] With regard to individual incentives it was a science on its own, a detailed process. [...] Fortunately, [...] the individual aspect was completely removed [...]. (MA4)</p> <p>- First of all, we plan bottom-up [...] and then we say that we would actually need to plan a little more. [...] And if the total does not equal the strategic guideline, we give [...] some additional targets. (MA6)</p> <p>- For our division it means that we work with the business plan [...] and that these targets are derived from this business plan. (MA7)</p> <p>- During strategic planning, a target matrix is built with five dimensions (those of the Balanced Scorecard)[...]. But we do not break-down the targets in a structured way yet. (MA9)</p> <p>- We have a company vision that we update every two years. And this vision is not a figure-based target. [...] It is even unrealistic but it gives direction. (MA10)</p> <p>- So you have a budget that needs to be reached and an ambition. It is more ambitious and goes beyond. (MA10)</p> <p>- The comparison between actual, budget and previous year always plays a major role. [...] And conveying the objectives means in my view indirectly through the budget process. (MA11)</p> <p>- The targets fixed by the management [...] are communicated for the first time with the budget letter. [...] We re-distribute the budget letter to the responsible who hold budget meetings with their subordinates [...] and communicate the target for the next year [...]. We also have a house of strategy with the overall targets of the company and the enablers. [...] And this has been distributed to everybody in a laminated way [...]. (MA13)</p> <p>- The top-down expectations, i.e. targets, are frequently higher than the figures that have been consolidated bottom-up. [...] And then we highlight at least our risks and opps. (MA13)</p> <p>- Conveying the objectives is done via our reporting system [...] from volume until EBITDA. [...] People consider it relevant. [...] and targets are based on an adapted budget. (MA15)</p> <p>- So people will have two or three weeks for their input in June [...] and the target [...] is only distributed in February or something like that. [...] But then it comes to group consolidation [...] It does not match as always [...] they will give top-downs. (MA16)</p>
Performance evaluation/ Reward systems	<p>- With regard to individual incentives it was a science on its own, a detailed process. [...] Fortunately, [...] the individual aspect was completely removed [...]. (MA4)</p> <p>- We have a bonus payment for the achievement of this [...] target. This is how it works. (MA5)</p> <p>- Well if you deviate a lot [...] there might be a negative incentive. (MA6)</p> <p>- The programme is called global leadership programme. It started at the top and now follows down the cascade. [...] This is where you principally exchange with others. Peer consulting. It is wanted that you get to know other views. [...] It is the aim [...] to network and it follows the idea to make the organisation better, more efficient and effective. (MA6)</p> <p>- The bonus payments for example for the CEOs of the subsidiaries. [...] There is something and we regularly provide data [...] but which incentive depends on which indicator is [...] actually top secret. (MA9)</p> <p>- And we have collective management where we have collective meetings with a starting appraisal and a semi-annual appraisal. And this is where we follow-up a project. For example this year we have the target to generate 35% growth. [...] On which issues do we want to concentrate this year? [...] We follow-up employee satisfaction [...] and customer satisfaction. [...] All this is supposed to help us to generate 35% growth. (MA10)</p> <p>- Here you have [what we call] individual management. Individual management means a monthly individual meeting with your boss. So you have a mission for the year. For this mission you set an ambitious indicator in each position. With a semi-annual review and yearly review. (MA10)</p> <p>- And there are so called [...] global meetings [...]. All the CFOs, marketing and sales directors and chairmen come together. They take place every four months in another city and last 1.5-2 days. There is a big finance slot where the group CFO presents the group targets [...] and target achievement. [...] It is a very comprehensive meeting where we receive loads of information. (MA13)</p> <p>- All the key account managers and [...] the management team members have [...] incentive targets. [...] Whereas the key account managers have local targets on their sales and customer P&L, we have international [/group] targets for the management team. (MA13)</p> <p>- There are, [...] every two years, finance lean quality days where you can present certain things and where you can do some networking. [...] The objective is to be more and more standardised and to grow together wherever it is possible and wherever it makes sense. (MA14)</p> <p>- One of the results was a "training of lean finance fundamentals" which has been attended by 70 – 80% of the MAs meanwhile. (MA14)</p> <p>- Learning is supported and required. [Our company] now has a learning week, which is e-learning as well as classical trainings. This is very condensed because we had the problem that the trainings that were offered internally did not fill up. [...] It was communicated that there are training catalogues but there was no clear responsibility and personal planning. [...] There was no pressure to register [...] and it costs. [...] It was all very dependent on the superior [...]. (MA15)</p> <p>- The organisational learning and change is mainly seen [as a task of] each manager. (MA15)</p>

Exemplary quotes MAs

Organisational factors	<p>- This is where we are more reactive and maintain the current status as long as possible. And this is how it stays relatively stable. Thus, organisational changes entail disruptive changes. [...] Frequently not sufficiently focused. Because each organisational change leads to fear, blockade or performance dysfunction. Or can lead to it. [...] But in my view, this is more a reaction than an integration into the system. (MA4)</p> <p>- There are many reports [...] which do not go to the old shareholders because they are not allowed to see them. They would be immediately forbidden. (MA9)</p> <p>- We need to take out all the brakes and smash the organisation. The organisation slows us down. The structure was a little complicated for a retailer. A holding. [...] Many hierarchies. [...] The autonomy of the countries was very low. [...] And then they said that this organisation is all over. [...] We are now a union of autonomous countries. There is no more worldwide board of management. [...] So each country can take autonomous decisions up to €15m. Play the game. (MA10)</p> <p>- Sales, contribution margin, gross margin. And when it starts to come to operations and this kind of thing, we were out. Because also we had a very weird organisation structure. Now it's getting better with the change. And now I am finding my way. (MA16)</p>
Information flows and their efficiency	<p>- For example, you have to achieve one million [euro of additional target] and colleagues work on different smaller measures. [...] But for the big five measures I would always interfere myself. (MA1)</p> <p>- The implication of technology is missing. How does technology influence the control processes? [...] The ideas are from 2009. At that time technology did not have the same relevance as today. There are simply so many new technical options. [...] All this artificial intelligence topic. This will have an enormous impact. We already investigate a little bit with artificial intelligence. (MA1)</p> <p>- We are about to develop a, we call it management information system, a dashboard system, where KPIs/indicators can be split from the top level to the bottom level. (MA3)</p> <p>- We have different elements how to structure our planning cycle for short, middle and long-term horizons. [...] And this consistency is [...] an essential element [...] to reflect continuous improvement and to measure performance. (MA4)</p> <p>- If something went wrong, we see it based on the indicator. And if it runs fine, we also see it based on the indicator. Through the daily shop-floor discussions [...] employees learn which measures make them advance and which less. (MA5)</p> <p>- A big topic is actually big data. Basically we have an incredible amount of data at our disposal. And currently I think we do not make enough out of this data. [...] We have so many reports in our company and the question is if they could not be organised in a smarter way. [...] If it is a system or a dashboard or whatever, where one can access the most essential data [...]. (MA6)</p> <p>- We are having reviews approximately three to four times a year. [...] With the big markets [...] you are in close contact anyhow apart from the reviews. (MA6)</p> <p>- Three times a year we have a division board where we present and discuss our strategy and budgets. (MA8)</p> <p>- So we would only see: where are we? Where do we still have gaps? OK for the gaps we need to find measures. (MA8)</p> <p>- That [a PMS] is linked directly to the origin of data [...]. That there are almost no manual steps to establish a report. [...] Currently it is a lot of manual Excel, a lot of copy-paste [...]. Not a very satisfying and qualifying work. (MA11)</p> <p>- Such a PMS needs to show a certain efficiency. This means that cost and benefit need to be balanced. It needs to be as efficient and smart and automatised as possible. (MA11)</p> <p>- All technical locations worldwide come together. Then they are having a workshop during three days. [...] And they prepare the strategy for the next years. And they pick special topics how they were executed [in the past]. (MA12)</p> <p>- I need a system where I see where the gaps are and where to re-adjust. (MA13)</p> <p>- We have monthly review meetings, where [headquarters] participates partly, where figures are discussed, presented and explained. (MA13)</p> <p>- Only what is measured can be improved. This is one of our lean philosophies [...]. And the analysis where the deviations are, where they come from and to introduce [...] corrective measures later. (MA14)</p> <p>- And then of course the topic digitisation [...] that I can create the transparency with the least personnel effort. And that I automatise the maximum. And that I put all my resources [...] in data analysis and not in reporting or data preparation. (MA14)</p> <p>- And they finally announced that they will try to use this big data etc.. But this is business analytics. But this is something which will just take time. (MA16)</p>
PMSs use	<p>- This big cockpit chart, we call it, is really highly committed. There is really not much which is so rarely challenged here. The control process below is more ambiguous. (MA1)</p> <p>- We have different elements how we structure our planning cycles [...] short-, mid- and long-term. [...] And this is what we finally linked in the last years. [...] And this [...] consistency is an essential element [...] to implement continuous improvement and measure performance. And this what I would call system. (MA4)</p> <p>- We are talking about hours now. [...] We say that we can save x hours which leads you to a percentage. [...] We then develop our roadmap which kind of measures we plan in the different departments in order to get better. [...] And for the actual we can say if the measures were successful [...] or what happened that prevented us from implementing the measure. [...] And the last step was to work on a daily monitoring of the previous day. (MA5)</p> <p>- Each KPI has its deficiencies, of course. But once set, they help you after all to control the departments respectively [...]. Support of the strategy process and the ongoing management... Strategy process, mid-term planning, and respectively the balanced scorecard as a tool definitely exist. (MA8)</p> <p>- There is no real structure. [Only] a vision which is updated every two years. [...] And a vision is not a figure-based target. [...] The rest changes. This is the only constant and overall definition. [...] We have more autonomy to decide and to take risks. (MA10)</p> <p>- We are responsible for the total budget [...] for the group, for the five-year planning which is done once a year, for three forecasts per year, for the risk reporting [...]. And we are responsible for headcount control. (MA11)</p>
PMSs change	<p>- We are just about to develop such a system. We develop a, we call it management information system, a dashboard system where we can break down KPIs from top level to bottom level so that the head of division can see right away where he stands with all his functions and where the department head can also see his department figures [...]. (MA3)</p> <p>- In the past we focused strongly on monthly reporting and measurement of performance, variance analysis. This changed to attending the strategy process and long-term planning. (MA4)</p> <p>- The BSC was introduced [in our company] in the early 2000s [...]. It regularly undergoes such [...] cycles: we do a little bit more, push a little bit more. Then we have more complexity. We are a technology-oriented company. This means that the researcher DNA lives in all of us. We want to be very precise. And then we realise that it is too much and that it is no longer manageable. And then we try with less details and we realise at the end that we simply need to reanimate a bit. It undergoes such [...] cycles. (MA8)</p> <p>- And growth was not stable – growth was even diminishing. [...] And the profitability was stable or also diminishing. [...] OK what to do? We need to take out all the brakes and we need to destroy our organisation. [...] Our DNA is chaos management. [...] Just imagine what happened. 3500 employees were working in this organisation and you say: organisation destroyed – does not exist any more. [...] [The vision and mission] is the only thing that does not move. All the rest can disappear from one day to the other. (MA10)</p> <p>- We want to globally implement a planning and simulation tool of reporting. It is a cube. It is a SQL [structured query language] server-based planning tool. [...] And this database is the home of all the reporting and – [...] this is the most [...] important thing – enables the simulation of planning. [...] We need to change everything manually. And with such a SQL server-based tool you say that you grow 5% with a customer and [...] it [calculates] the volumes [automatically]. (MA13)</p>
Strength and coherence	<p>- This cockpit that we discussed at the very beginning, this is a 100% committed with the majority [of the management]. [...] They can pray it. The rest is less structured. This is a kind of backbone. [...] And the rest can consist of very wild management constructions, I don't mind. Where you can also find the human and collaboration part. (MA1)</p> <p>- What can we influence daily and monthly: this is the efficiency of our employees. [...] And the other point was that hours were more quickly available. We did not have to wait for a booking or an automatic billing. [...] And we are convinced that this is absolutely right. [...] And the production department analyses the machine hours. (MA5)</p> <p>- The problem is: what do you want to do with a single business case? The transparency is not helpful if you do not understand the total impact. [...] And now we are about to convert the business case to the business plan. And to check the actual performance: what happens after SOP with your business cases? [...] And now we see that the formerly positive business cases are now negative in the real world. And this is phase two of the restructuring. (MA7)</p> <p>- Strategy process, budget planning, respectively the use of the balanced scorecard as a tool – all this exists. The ongoing management is the transfer of the strategy into operative actions. [...] I claim that all that I do is right. [...] But the question [...] if all those running measures are enough to reach the strategy [remains open]. (MA8)</p>

Exemplary quotes OMs

Vision/ Mission	<p>- It helps [...] to bring up the really relevant things with the strategy map and to omit many things. (OM8)</p> <p>[- secondary data]</p>
KSFs	<p>- In 2022, we still want to generate a double-digit [RoS] [...]. And what kind of strategy do I need to choose then? [...] And our strategy [...] full-liner concept [...] that we serve each milk churn at the roadside [...]. (OM4)</p> <p>- We have our magical triangle [...]. On one side, we have costs which are our efficiency indicators, productivities etc. Then we have a second column which is supply availability. [...] And to produce in very small lot sizes [...]. And the third topic is quality. We think in terms of our triangle which has been heard and seen a hundred thousand times by everybody. (OM5)</p>
Strategies and plans/ Key performance measures	<p>- Performance is for me EBITDA and value contribution. And then I analyse my different turnover and cost positions. [...] The company targets are broken down. [...] One thing are company targets on a strategic level and [the other are] economical company targets. (OM1)</p> <p>- We also have reportings that reflect for example strategic indicators. What share of vehicles do we sell with the equipment x. [...] We invented x. - This is why the x sales share is a strategic target and also a sales indicator. [...] In such a big company [...] you can only lead based on clearly defined targets and a clearly defined strategy. (OM2)</p> <p>- [...] Classical pyramid. At the top I have my EBIT. And below, [...] I need to take care that I still have KPI and not only PI. [...] we had a very comprehensive strategy process [...]. We have two logics. One is implementation control, the classical milestone tracking. And then we do result control. (OM3)</p> <p>- I have a long-term planning [...]. This is what I can compare to the strategy. [...] I do my business plan now, then I get a [result] target out of the business plan and from this I can derive [...] fixed costs, value added etc. as targets. This means if I add up the components I should come up with the result again. (OM4)</p>
Target setting	<p>- [...] Our target is always what is feasible and we feel emotionally comfortable if we can say that we overachieved by +5% or +2% or whatever. This means that we are above plan – this is what we like. [...] What is always an awkward process is the arrival of the top down targets. [...] In an area of management accountants and CFOs we always have such periods of bazar negotiations. This is how it works everywhere. I am an engineer – I don't like this game. But I play the game. [...] It always reminds me collective bargaining. (OM1)</p> <p>- We have a target system. [...] It is deployed from the top to the bottom [...] We did a policy deployment for the order fulfilment department as they are 10-15 completely different sections. [...] Until now [...] everybody had three general targets in the target agreement [...]. Now we reduced it to two [...]. At the very top [of this system] is [...] EBIT and Cash Flow. (OM5)</p> <p>- It all starts with a board where strategic targets are fixed. [...] These targets [...] will be communicated to the employees. [...] The next year will be broken down as a budget. [...] And these budget targets will [...] become personal targets and will be further split down. (OM8)</p> <p>- These company targets are not stringently split down to the bottom-level. There are more corridors. [...] It can be cost targets, market share targets, retailer growth targets. Retailer quality [...]. There are environmental targets, innovation targets [...]. (OM9)</p> <p>- So this classical conveyance of targets by a system [...] from management top-down does not exist in our company. It is done selectively [...]. We try to manage it somehow [...]. But we do not have a real system. (OM12)</p> <p>- In the past, targets were more sophisticated. Today, they are simpler and better. Today there are regular video conferences with up to 4,000 participants where CEO or other board members talk about strategies, targets, the current situation and root causes. [...] In the past, there were emails or flyers that nobody understood. [...] The process is cascading: first, the top 200 (BoM and one level below) are discussing; then, including the department heads; then, the extended team down to the team leaders. (OM14)</p> <p>- It was rather a top-down than a bottom-up [process]. [...] It always means: you have to, you have to, you have to. [...] We cannot fix the targets together because it is only top-down and because there is no bottom-up. (OM15)</p> <p>- When I was an account manager, I had my planning finished. And from time to time, there was an additional target. Then you said: let's see how I can manage. And then you had to juggle a little bit. (OM16)</p>
Performance evaluation/ Reward systems	<p>- As an executive team, [...] we mostly have similar target systems. [...] The emphasis was just shifted to more central targets. I am more the kind of person that would like to take the responsibility for what I did. In a positive and negative sense. [...] This [central target idea] supports the idea that we are all in the same boat. If it is effective, we will see. (OM1)</p> <p>- There are, for example, series of presentations that we introduced. These are [...] meetings of different departments to foster exchange, to promote topics. And we did a lot of workshops with project groups. [...] And we have monthly [...] sales meetings where we bring the different organisations [...] together. We have for example meetings where we invite the sales force together with the back office. (OM2)</p> <p>- And we all have – starting with our head of Germany down to my management level – a result target in our target agreement. This is the base for our performance evaluation and our bonus payment. And thus we have these reports with which we control our sales and result situation. (OM2)</p> <p>- And to celebrate success is something that can be done if justified. You don't praise somebody simply because it is Christmas [...] but because there is a reason. And this is good for an organisation. (OM3)</p> <p>- Appreciation? Based on our [result], the bonus is calculated and we get incentives. (OM4)</p> <p>- We have fireside chats with the board members and executive panels at least twice a year. [...] This is at least information sharing and a platform for feedback – especially in smaller circles as fireside chats. (OM9)</p> <p>- We have a new topic for executives which is [...] eight competencies [...] These are competencies that a manager should possess. Depending on the position on different levels. [...] A target profile is determined. And the actual profile is compared [...] If there are gaps we need to find measures based on a tool kit [...] And on employee level, we have the normal performance appraisal discussions and qualification discussions where we try to trim the employees in the sense of the organisation. (OM12)</p> <p>- We have target agreements combined with an incentive pay system. (OM14)</p> <p>- Approximately eight times a year I organise team breakfasts with the blue collars. All kind of questions can be asked and the current status is presented. This is where current topics emerge from the shop-floor. The alignment with my level is very important. [...] The most important thing is personal appreciation face to face. (OM14)</p> <p>- This is very much structured by the target agreements. Everybody has one. There is also a mid-year review. [...] It has an impact on your bonus. [...] Since a few years it's not only about the "what", it's about the "how". There were a few cases in the past where the "what" was OK [...] but not the "how". [...] And for the onboarding of new employees. There is a process what they need to learn. [...] And within the yearly target agreement we now also have a yearly employee development. [...] So that the company knows how the employees would like to develop in the future. (OM16)</p>

Exemplary quotes OMs

Organisational factors	<ul style="list-style-type: none"> - An organisation can support, but it cannot replace if there are no precise ideas about certain [...] responsibilities. [...] [We structure our business] with job descriptions and not with boxes and organisational units. [...] This has the soft factor that people do not stay within their boxes but look for global responsibilities. It is some kind of moral responsibility not to let a colleague down. (OM1) - It is a flat organisation, less and less level inside. From the sales assistant [...] to the country manager, there are two levels. Before, there were seven. [...] And we give the responsibility. If you want to play the game. They can take their own decisions because they know. (OM10) - [...] This is somehow the destiny [...] because of the decentralisation and divisionalisation with the subsidiaries. We try to do workshops [...] on different functional levels, for example with regard to lean management. [...] But basically everybody does his own thing and there is even rivalry. [...] And this is not constructive. (OM12)
Information flows and their efficiency	<ul style="list-style-type: none"> - We have everything that you can imagine and wish in a report, at each level of detail, for each channel, for each model, for each equipment. [...] It is actually too much. You first of all need to find your way through the jungle in order to find out what is really important. (OM2) - There are expectations which cannot be fulfilled, namely this realtime overview about the performance of the unit. [...] This means that management accounting already fulfils it. But not the timely requirement that she and I have, namely at the push of a button and on demand [function]. [...] The system has no intelligence. (OM3) - Once a year we do an official review [...]. This is where we also check the total capacity planning which topics to deal with. Because the overview contains too many for the organisation [...] and we need to do a prioritisation. [...] Indirectly, it is always to be checked: does it help to advance? Does it sell any spare part? (OM3) - Thus, it is important for me to have a simple indicator where the difference is quickly explainable: that I can traduce a figure very quickly in a physical effect. And then I need to conclude: How can I modify this physical effect that prevents me currently from reaching my target. [...] The other thing is that you can celebrate success with shop-floor management [...] if you over-fulfil or reach your target. (OM4) - Our efficiency programme [...] which measures daily what the performance is of our [shop-floor] employees based on our boards, shop-floor management etc. [...]. We discuss it daily with every shop-floor employee: how was yesterday? How many pieces were produced, what was the target, what was the actual and how was the total efficiency? [...] We track this indicator daily. And people start thinking: oh I have two too many today – what shall I do with them? [...] This is how affected people are turned into parties involved. (OM5) - We think in our triangle. Everybody saw and heard it a 100,000 times. [...] We have a T-Shirt [...] [for the shop-floor workers] with a triangle. And it is cost, quality and delivery. (OM5) - We have this strategy loop: from [...] strategy to measure a plan. From implementation to the feedback loop of operative observation. (OM8) - There are three boards per year where we need to report the division to the board of management [...]. The next [is...] the year-end closing board. [...] The second board is a strategy board where we present our strategy, what we decided and how we want to proceed. [...] And the third board is the budget planning for the upcoming year. This is the operationalisation of the strategy for the next year [...]. (OM8) - [...] We do the monthly cost reviews here. [...] We meet here in production. [...] And if we manage together to agree on a few comprehensible facts [...] to look at [...]. Then I think that it is a useful and important completion. (OM12) - Around 2008, we introduced SQCDP [safety, quality, cost, delivery, people] as a cascade. The idea is that a healthy process develops a healthy result. The idea is to have a PMS directly on the production line [...]. Each morning the teams meet on the production line; twice a week, the board is filled [and discussed] with the head of production; once a week, the board is filled [and discussed] with the plant responsible; and once a fortnight, with the operations manager [of the division]. [...] Everything is standardised and this is how poor indicators and topics also end up on the board. (OM14) - Big data is missing. We have data everywhere. There are many available figures with which we could simulate the future. [...] Overall I think that processes are like fashion: flares always come back. So the team changes, the management changes and the learning process restarts. [...] This is not efficient [...] and big data could help with regard to the future. (OM14) - I have a meeting every two weeks with my team leaders and cross-functional departments like HR and management accounting. Everybody brings discussable points proactively. (OM14) - And mentoring is a network that has been introduced at that time. (OM16)
PMSs use	<ul style="list-style-type: none"> - We have our daily reporting. These are 100 pages of pdf. Then I have incoming orders, deliveries [...] and my order backlog for each model, for each channel. This is my indicator how business was yesterday [...]. Then, there is another report that reflects the market, [...] where I see the registrations. This is also daily. And then we have the sales result report on a monthly basis [...]. (OM2) - The shop-floor management cycle says: I have a target that I measure daily. I measure my OEE [overall equipment efficiency] and can identify five or six loss indicators that I can monitor [...]. What are my top 5 levers? Then I make a plan and go into the PDCA cycle. Plan – do – check – act. [...] But it requires a lot of discipline. [...] Thus it is important for me to have a simple indicator where the difference is quickly explainable: that I can traduce a figure very quickly in a physical effect. And then I need to conclude: How can I modify this physical effect that prevents me currently from reaching my target. [...] The other thing is that you can celebrate success with shopfloor management [...] if you over-fulfil or reach your target. (OM4) - Our efficiency programme [...] which measures daily what the performance is of our [shop-floor] employees based on our boards, shop-floor management etc. [...]. We discuss it daily with every shop-floor employee: how was yesterday? How many pieces were produced, what was the target, what was the actual and how was the total efficiency? [...] We track this indicator daily. And people start thinking: oh I have two too many today – what shall I do with them? [...] This is how affected people are turned into parties involved. (OM5) - It is not the case, [...] that we cannot live without this tool [BSC] but we use it situationally. And this is how we experienced all the variants. Because first of all you are enthusiastic. Then you bring all your actions into the tool: then they are not really updated or there are many shifts in the projects [...]. So you really need to put a lot of effort into the regular update. (OM8) - The management accounting team creates monthly reports for all the countries. So that we can check the performance of certain projects or for the countries. (OM11) - Around 2008 we introduced SQCDP as a cascade. The idea is that a healthy process develops a healthy result. The idea is to have a PMS directly on the production line [...]. Each morning, the teams meet on the production line; twice a week, the board is filled [and discussed] with the head of production; once a week, the board is filled [and discussed] with the plant responsible; and once a fortnight, with the operations manager [of the division]. [...] Everything is standardised and this is how poor indicators and topics also end up on the board. (OM14) - And these details are not available that I track my measures for target achievement. [...] From where do I need to counteract? Because the [reporting] does not tell me in my view. I would need to collect it all by myself. [...] The [...] system actually exists, but the specification and interface to our system [needs] are missing. (OM15)
PMSs change	<ul style="list-style-type: none"> - Basically I dream of a classical cockpit. I switch on my computer and I see where I stand in my total value chain. And if it is a good system it tells me where to look at first: traffic light logic. [...] It does not exist yet. We have various reports. [...] I could look at all the data manually but I don't want to. We are working on this issue together with my MA. (OM3) - Even if you do not manage, you need to talk about it. This 'I did not manage', 'we need a solution' was not as distinct as I would have wished. [...] This change process is surely supported by a transparent follow-up [process]. (OM3) - A few years ago we were very enthusiastic, we have been working with EFQM1 like dogs. [...] And we have been spending capacity without end. The topic does not appear to be as important any more. That's a typical PMS, even a very sophisticated one. But it requires discipline. [...] Because nobody wants the effort any more. At the end the system degenerated by counting points. [...] The EFQM was transformed to a simple performance system by measuring the performance of the points. (OM4) - Our efficiency programme in inverted commas which measures daily how the performance of our employees is, monitored on the boards, shop-floor management cycle etc. And our MA has an important task in this process. He prepares the figures. In the beginning it was monthly, [...] now it is daily. (OM5) - We have a strategy map and a BSC. And I am discussing with [the MA]: On which level do we follow-up actions in our BSC? Against which KPIs do we measure? How do we do this? We had periods where we worked on a very detailed level. Currently we are in a period where we summarise. (OM8) - Honestly, we change our processes as frequently that you do not have the time [...] to improve as you are already in a new process. [...] But [...] people do hardly follow: is it a new one, is it an old one, is it what we did? [...] I say always: there is one constant – and it is change. [...] It has [...] advantages. But it has inconveniences because people do not follow that quickly. (OM16)
Strength and coherence	<ul style="list-style-type: none"> - And we just implemented shop-floor step three. This is where we aggregate the data once a week. And this is where my leadership team meets. [...] This is a good example how we approached these things step by step over a period of two/three/four years. (OM5) - There is also a strategy map for the total company. And each department has its own. And we have been working with this tool for a long time and we developed it further and we discuss it. Sometimes more, sometimes less. (OM8) - We have a trend to give to the shareholders for 2019 [n+2]. [...] But we give us our steps to reach this. It is not that somebody tells us 'you have to do that'. Before of course you had a budget, a minimum, a maximum. You had to follow. Now you have the liberty, it is your responsibility. (OM10) - SQCDP is a global system which works in a cascading manner. Each morning the teams meet on the production line; twice a week, the board is filled [and discussed] with the head of production; once a week, the board is filled [and discussed] with the plant responsible; and once a fortnight, with the operations manager [of the division]. [...] Everything is standardised and this is how poor indicators and topics also end up on the board. (OM14)

Appendix H

Relevant quotes: interactions of the PMS characteristics with role of the MA (rSQ3)

MAS' view		
Arrow	Explanation	Further exemplary quotes
1a	<ul style="list-style-type: none"> - start of core role episode - OM sends role to MA who translates role sending into behaviour/activity Main topics mentioned: <ul style="list-style-type: none"> - target break down - PMS requirements - plan, budget - structuring the company, processes <p>=> focus on core characteristics</p>	<ul style="list-style-type: none"> - Also [the OM is] the one who has requirements towards the MA about KPIs. He [the OM] is supposed to have these because otherwise he does not do his job properly I would say. [...] And the MA needs to be the objective person. [...] He also needs to push him [the OM]. (MA3) - Conveying objectives: we get the overall objective of 6% productivity increase. And our task in management accounting is to break it down: what does that mean for the four areas that we have in our company? (MA5) - A year ago, we introduced a management cockpit for the [company name]. [...] Somebody saw it somewhere and liked it a lot [...]. Where we present the financial key figures on a monthly basis for the group. But it is only a cockpit, [...] only top-level. (MA9) - Well, generally our sales department is also very chaotic and they think about so many things how to gain money [...]. And we are [...] then aligning the people and define clear processes which structure the whole company. [...] Well, what I wanted to describe is that in my view the MA is the one who is responsible for such a PMS. Who places and edits the requirements of the management, of the OM. (MA11) [PMS use] - And then we have OM, MA: it is a mutual exchange. [...] The OM needs to play back information. When he receives a target or a strategy where he needs to participate, it is really an exchange. (MA12) [information flows]
1b	<ul style="list-style-type: none"> - third party view - in parallel to 1a or alternatively Main topics: <ul style="list-style-type: none"> - OM define requirements - mainly core characteristics (target setting, reward systems) 	<ul style="list-style-type: none"> - And then feedback is necessary from the OM to the target system in order to stay realistic. Otherwise we end up with fairy tales. (MA1) [target setting] - And the characteristics are more or less given in collaboration with the operative manager [...]. (MA15) [general]
2a	<ul style="list-style-type: none"> - feedback of MA directly to OM with regard to role or beyond Main topics: <ul style="list-style-type: none"> - feedback loop - based on strategy, ongoing management, measures, budget - information flows 	<ul style="list-style-type: none"> - [...] And he [the MA] interprets it for the OM. This is the result measurement but as well real result discussion. A good MA is supposed to have this discussion. [...] Result measurement works then if this [OM] does not need to have the focus on the absolute depth of the figures. Our OMs do not have this, they are more customer focused. (MA1) - [...] For everything which is [...] strategy and ongoing management, we are also in continuous exchange with the operative manager. (MA2) - Based on this switch to hours, [...] the understanding of production increased. [...] I think that you can [...] have a more detailed discussion: what happens on which production line? [...] And the production guys know what you are talking about. [...] And management accounting evaluates the measures according to the impact [...] and to the efficiency development. (MA5) - The MA generally has further questions [to the sales manager]. Not all the details are contained in the request. [...] The more units are concerned, the more loops there are. (MA6) - This means that you had to convince also the management team that it [the BSC] is good somehow. [...] And typically: [there is] a question, then you do an analysis [...] and write a conclusion as a MA [...]. This is much more value-adding for him [OM] and satisfying than such a BSC. [...] And the second important thing is to discuss with the OM to say: what is actually the target achievement? And in the sense of steering: what are the measures that we deduce? (MA8) - [...] If we are not on budget, the target for a key account is to check with the sales director how we can get back on track. So how we can generate additional volumes if volumes are missing. (MA13) - We do these thing, we don't drive it really [talking about operative planning]. We do it, we make it happen. We make sure that the lists arrive, we make sure that everyone hands in the information, that the information is there. [...] I am just arguing if the output of all this is what we really want? (MA16)
2b	<ul style="list-style-type: none"> - feedback of MA directly to PMS with regard to enabling or core characteristics (more core than enabling) Main topics <ul style="list-style-type: none"> - feedback loop into system split into core characteristics and enabling characteristics => MA himself sees need even if not required by OM - core characteristics still majority with plan/budget, measures, targets, strategy.... - enabling PMS change, information flows 	<ul style="list-style-type: none"> - Before, foreign investments was done without knowing the impact on the financials mid-term. And with this tool today we obtain a business case in a specific format. (MA1) - We are involved in target definition and operative support. [...] We have very much operative business. [...] You are happy if you manage to wangle it all. And unfortunately there is not much time for strategic issues or strategy processes. (MA2) - So for me, if this is omitted, the MA has much more time to use the MIS and to check: are we on track, does the strategy fit, and where do we actively need to push [...] measures [...]? (MA3) - And this is how the MA [...] works on targets, distributes targets. [...] Also [...] in the strategy process, to generate consistent information over a longer horizon and to make success measurable. (MA4) - This is where I see the ongoing management that we support with our management accounting system. By analysing, by defining measures [...]. How do the single departments run? [...] And the big step for acceptance was to concentrate on direct employee hours [...]. That we can talk precisely about one working place [...]. And the next step is to have it on a daily basis [...]. (MA5) - We were discussing that the MA is very important for the topic target definition: what exactly do you want to achieve with it? What would be the right indicator? What is calculable, what not? [...] He would do the calculation [...]. And the [...] important thing is that he discusses with the OM [...]: how is target achievement? And in the sense of control, what are the measures that we deduce? (MA8) - [...] And that the MA scales it [the requirement of the management with regard to the budget] respectively into the PMS. (MA11) - The targets that we receive are of course integrated into the cost planning and broken down. (MA12) - So this concerns the more long-term oriented financial goals that we support here from finance together with headquarters and where we deliver the input to fix the strategy [...]. (MA13) - In the context of further planning cycles – we do not plan only once a year – it will be adjusted, it will be corrected. (MA14) - Standardisation took some time because there were different understandings about SAP usage in the different companies. [...] We standardised everything to the date of performance. And this is how we are able to have comments on a weekly basis: you planned to work 150hrs, in reality you only worked 120 hrs. [...] This is how we can report it. (MA15)
3a	<ul style="list-style-type: none"> - third party view - core and enabling characteristics can be source of interaction Main topics: <ul style="list-style-type: none"> - information back to OM - core: targets, plans, measures - enabling: PMS change, strength and coherence 	<ul style="list-style-type: none"> - [...] The problem was that sales focused too much on volumes. And this meant that there was zero result responsibility of the sales department. [...] Currently sales is more involved in result responsibility through this system and we feel an improvement because they are directly measured with incentives based on the result of this system. (MA2) - [...] If something went wrong we see it based on the indicator. And if something was good we also see it based on the indicator. And through the daily scheduled shop-floor discussions [...] the employees learn [...], which measures make them advance [...] and which are not so efficient. (MA5) [strength & coherence, information] - How good are you in terms of competencies? [...] And these are typical management tasks [...] because it always needs the know-how of the manager to evaluate how strong the competency level really is. (MA8) [performance evaluation] - And when it comes to deduce operative issues from this PMS [...] then I consider it as a task of [...] the operative manager to break them down on a doing level. (MA9) - And this price floor is no longer valid once we put the project into practice. And this means that the empirical values from the last 40/50 years are no longer valid. And this is where we need a solution. And this is very difficult and very emotional [...]. And this is really a change of steering. (MA12) [PMS change] - Many things are fixed in volumes for the sales department. But volumes do not pay my salary. My salary is paid by at least [...] a turnover or profit. (MA13)
3b	<ul style="list-style-type: none"> - alternatively, in parallel or in sequence: feedback of characteristics to OM; also core and enabling characteristics Main topics: <ul style="list-style-type: none"> - PMS „feedback“/information to MA - core: measures, strategy, performance evaluation - enabling: information flows, strength and coherence, organisation structure 	<ul style="list-style-type: none"> - So for me, if this here [the manual reporting] is omitted, the MA has much more time to use the MIS and to check: are we on track? Does the strategy fit? Where do we need to assess [...] measures? (MA3) - This means that the monthly meetings with the head of division [...] - the figures are prepared by my MAs. Before this review I have a meeting with my MAs where they show me what they could observe in the different sales areas. [...] During the review with the sales responsible I take notes [...]. [...] And they [the MAs] take up these minutes in the following month and check if there was a positive or negative development. (MA3) [information flows] - It changed in terms of steering the business more operationally with a set of available organisation and meetings [...] where the MA is represented. [...] Before the MA was the killjoy because he criticised budgets or because he did not approve investments because of payback periods etc. We have a much stronger outcome orientation now. On the other hand, [...] there is a stronger interest on commercial topics from the functions [functional managers]. (MA4) [organisation, information flows] - There are significantly less requests [for rebates] that are to be treated. [...] If it is a request for one unit or for a hundred units, it is a request that needs to be analysed. And it takes almost equal time. [...] And now the single requests are omitted. And the time is used for a hopefully better analysis [...] of the other requests. (MA6) - Watch out, if you set the assumptions like that, then it has this impact. [...] And we need to work on the issue that we do not input 70 percent know-how but rather 90/95 percent. They are not fortune-tellers. [...] Currently we have a commitment problem for the business case. (MA7) [strength and coherence] - Today I strongly work on the topic big data e.g. You know: we generate 20% of our business online. There is a lot of data to analyse. I also work a lot with logistics. (MA10) [information flows] - From the third to the seventh working day we are busy with consolidating, preparing, changing, doing plausibility checks [...]. (MA15)
circle	<ul style="list-style-type: none"> - whole episode needs to run during several circles to be effective 	<ul style="list-style-type: none"> - It was not a process which happened overnight but it took some time. It actually took a few years until the sales colleagues internalised it [the result orientation]. (MA2) - It was proposed by us. But – of course – it did not happen overnight. [...] There was also enormous resistance due to high manual effort. [...] But this effort was worth it for interesting issues. (MA4) - And the biggest step of acceptance and comprehension was the concentration on employee hours [...]. [...] We already have it since a few years this hourly system. [...] And the next step is the daily hours. (MA5) - At the beginning we were not highly welcome because we slightly stepped on the toes of the people [...]. [...] After a few months it changed. They suddenly asked for the reasons when we had to cancel a meeting [...]. (MA12)

OMs' view		
Arrow	Explanation	Further exemplary quotes
1a	<ul style="list-style-type: none"> - start of core role episode - rather role sending view than role receiving view Main topics mentioned: <ul style="list-style-type: none"> - monitoring function/reporting - target break down - guardian of it system - measure follow-up - overall view => focus on core characteristics/hard facts rather than enabling 	<ul style="list-style-type: none"> - The MA has the functional responsibility to prepare the data and to track the planning in a way that it works. [...] And I would see them [OM and MA] on the same level [...] - "on equal terms". (OM1) - And simultaneously the OM tries [...] to influence on him [the MA] [...] in order to find common targets together with the MA, in order to put the measures into practice. (OM2) - And based on the documents that management accounting prepares we go through each measure. [...] Now we developed a more user-friendly system which makes it easier for sales [...] to analyse. [...] Thus the MA also became a guardian of the system of this big data pool and front end [...] together with the IT. (OM3) - I need the MA for the implementation and this is analysis, planning, measurement. Exactly this support [is needed] which is more than just processing data. [...] To provide services to a production system [...]. This is rather a new role which they [the MAs] voluntarily fulfil meanwhile. [...] But I say that somewhere there needs to be an adjustment factor [...] and this is why there is a MA [...]. (OM5) - The MA has an overall view of the issues and is in the loop where he focuses on efficacy [...] and boundary conditions. (OM8) [information flows] - So my expectation in front of me first and the team is that the financial part and the commercial part are more and more linked. And [that there are] some touching points that can be meetings and also workshops in the field. (OM10) [strength & coherence]
1b	<ul style="list-style-type: none"> - in parallel to 1a or alternatively: feedback into core and enabling characteristics of PMS Main topics: <ul style="list-style-type: none"> - OM define measures, strategies (core characteristics) 	<ul style="list-style-type: none"> - Last year, we [OM and MA] followed a relatively extensive strategy process [...] where we defined lots of measures for the single functions [...]. [...] We have two logics: [...] one is milestone tracking. [...] And then we also do result control. (OM3) [measures] - We [operations] organise [...] workshops every Tuesday with up to [...] 40 people and there are also MAs attending [...] and where we treat precise issues or improvement topics. (OM5) [information flows] - We now have a so-called dealer scorecard for all the subsidiaries and big importers worldwide. [...] And now it is also part of the company targets: quantitative and qualitative dealer development. [...] We said within sales that we need to make it more transparent and that we need to measure it. (OM9) [measures] - [...] Every store can choose the range and size of the family of products (how large and deep). [...] And you can choose this if you understand your environment, the composition [of customers] of [the market], the share of your market you want to reach and the goals that you give to manage the team. This is the big change. Before people were waiting. Now you are actor, you have to decide. So give the opportunity to your team. They can take responsibilities. (OM10) [measures]
2a	<ul style="list-style-type: none"> - third party view - feedback of MA directly to OM with regard to role or beyond Main topics: <ul style="list-style-type: none"> - feedback loop - information and control, proposals, measures, plan, target achievement 	<ul style="list-style-type: none"> - Of course, it is the task of the MA [...] to steer the job of the OM. And to approve his requirements if they stick to the targets. [...] And then the daily action of the [...] sales management accountant [...] is to check on a weekly/monthly basis how it [the business] runs. And then to countersteer. (OM2) - Of course, the MA informs and controls the OM, makes proposals; so really the broad definition. (OM3) - And the next step is to come up with ideas what could be improved. And especially, what we [operations] don't know is, where the levers are. As engineers we do not know that much what the [financial] impact of each measure is. (OM4) - So I have the impression that they [management accounting] have a stronger exchange with sales. [...] Globally, I think that management accounting developed strongly into a role where they are an essential part of the entrepreneurial extent or view. [...] I have the impression [...] that this estimate [...] is frequently checked with us informally in order to develop a common picture before [...] running into a decision. (OM7) - [...] I think that we become more and more professional and experienced in our planning processes. Because management accounting prepares it professionally, [...] service-oriented for the subsidiaries and for us in the sales departments. Everything becomes more bite-sized and more manageable. Easier to use, easier to follow-up. (OM9) - [...] And the improvements in the planning process [...]. [...] If management accounting comes to us with ideas and proposals and if we have the chance to comment on it from a business perspective, this is the most successful way. (OM11) - More the support of the running business to monitor where we are with the target achievement. This is what is strongly done by Mr [MA13]. [...] This is for [...] our CEO to see where he stands in his target achievement or achievement of the total organisation. [...] This is all consolidated at Finance [...]. And it is reported back to Italy: [...] here are your ideas, these are our realistic proposals with this P&L. (OM13) - But in this case, management accounting agreed to take the risks, to be confident in the production colleagues to realise the chances. (OM14)
2b	<ul style="list-style-type: none"> - third party view - feedback of MA directly to PMS: with regard to enabling or core characteristics (more core than enabling) Main topics: <ul style="list-style-type: none"> - feedback loop into system; split into core and enabling - core: target setting - enabling: information flows 	<ul style="list-style-type: none"> - We analysed the flow of commodities. [...] Our strategy says that we are represented in all regions and that we can serve all local customer needs. And then we realised [...] that the total distribution does not fit. This is where he [the MA] did an analysis and where we decided on certain modifications. So I think [...] that I could [...] give a few examples where he proposes [measures] and does things on different strategic levels. (OM8) [strategic measures] - So the management accounting team provides monthly reports for all countries. So that we can check the performance of certain projects or also the total countries [...]. The MA [...] establishes instruments or uses tools that permit to generate analyses that compare the business and the performance [...]. Also for example to control the performance and the variances to the planning. (OM11) [measures] - The MA is a little apart. [...] He takes the data in order to report and in order to fill the system for the next year in order to generate new targets etc. (OM13) [target setting]
3a	<ul style="list-style-type: none"> - core and enabling characteristics can be source of interaction Main topics: <ul style="list-style-type: none"> - information back to OM - core: measures, strategy, targets - enabling: information flows 	<ul style="list-style-type: none"> - And then we have business meetings at the end of the year October/November where we enter in more detailed discussions about the planning of the following year with management accounting and where we define measures, targets and ways together. [...] In a big company as [organisation 2] the company can only be controlled based on clearly defined targets and a clearly defined strategy. (OM2) [information flows] - Hey, your milestones are not achieved, your result target is not achieved or overachieved. It does not necessarily mean to be bad. And sometimes it is feast or famine. And to celebrate success is also a thing that can be done with good cause. (OM3) [measures] - Yes, I really need to be engaged in the data, I need to read them and I need to say: What do the data mean to me? This is why it is always important [...] that I have simple indicators that the differences are quickly explainable and that I can transfer a figure into a physical effect. And then that I can really deduce: How can I modify this physical effect which prevents me from reaching the target. (OM4) [measures] - And this is an automatism [...]. Then I [OM] receive an email that says: [...] application finished, approved, rejected – whatever. (OM6) [information flows] - It [the BSC] helps to structure and to focus on really relevant issues with the strategy map and to omit things. [...] What is really difficult is the real control and to carve out the effectiveness of strategy implementation based on the tool. [...] It is used situationally. [...] The real value is the means of communication and discussion. (OM8) [strategies] - But it is a circle. Information is something that turns around like this. It is not purely linear. It is all linked. [...] But today it is not a reality. [...] The arrow would be the target in the future. (OM10) [information flows] - What we get is a complicated Excel file with 150 VLOOKUPS and links and you are not allowed to touch because otherwise it does not work any more. [...] This is where we are too complicated. [...] I would like to look at certain things real-time. [...] Because I frequently need to take decisions on information current to the day [...]. (OM12) [measures/targets]
3b	<ul style="list-style-type: none"> - third party view - alternatively, in parallel or in sequence: feedback of characteristics to OM; also core and enabling characteristics Main topics: <ul style="list-style-type: none"> - Information to MA - core: strategy, measures - enabling: information flows 	<ul style="list-style-type: none"> - I do not get the green smiley or red smiley. But if I want to understand what happened [...], I need to make an effort in order to analyse the complexity and interaction. (OM1) [measures] - And a certain scope of information goes from the system to management accounting. (OM3) [information flows] - It is our tool. It is very normal to integrate a MA in our process. And to give him the necessary support and training [...] that he can do his job properly in our interest or in the interest of the company. (OM5) [information flows] - And I think that, through [...] the regular strategy process and new evaluation of strategies [...], the role of the MA became even more intensive to deal with [...] market [...], customer and competition [...]. (OM7) [strategy measures] - It lacks transparency [...]. Because there are x steps: from SAP to a cube, from the cube to a CSV file and then into Excel. And then we get it. (OM12) [information flows] - He [the MA] goes and gets his KPIs. (OM16) [measures]
circle		<ul style="list-style-type: none"> - And this is how the model harmonises over a long time and stabilises in a balanced way. (OM2) - This is perhaps a good example how we approached these issues step by step over a longer period – it actually took two, three, four years. (OM5) - I find that it worked out fine but it developed over years because we perhaps mutually trust each other. (OM6) - This is an ongoing circle. (OM16)

Appendix I

Cross-case overview: core characteristics of a PMS (rSQ2)

Core characteristics				
	Literature (Ferreira and Otley, 2009)	Support/Further operationalisation by MAS	Exemplary quotes MAS	Support/Further operationalisation by OMs
1) Vision/Mission	<ul style="list-style-type: none"> - Vision: desired future state (Johnson, Scholes and Whittington, 2008) - Mission: overriding purpose of organisation in line with values / expectations of stakeholders - General objective: how organisational values are established / communicated 	<ul style="list-style-type: none"> - Explicitly mentioned by MA10 - Mission/vision available through secondary data; 	<p>[The company values] are vitality and sense of responsibility. [...] We have a company vision that we update every two years. And this vision is not a figure-based target. [...] It is even unrealistic but it gives direction. [...] The rest changes. It is the only constant and comprehensive definition. (MA10)</p>	<p>It helps [...] to bring up the really relevant things with the strategy map and to omit many things. (OM8)</p>
2) KSFs	<ul style="list-style-type: none"> - Truly critical to long term competitive success (Thompson and Strickland, 2003) - KSFs are operationalisation of vision and mission 	<ul style="list-style-type: none"> - KSFs more frequently explicitly stated than vision/mission (MA8, MA9, MA10, MA13) - Supports that KSFs are operationalisation of vision and mission 	<p>[...] Since three or four years, [the company is] more explicit in its statements. [...] 10% turnover increase p.a. and 10% EBIT margin. And this ten-year mission was complemented one year later by another ten. Turnover, EBIT and R&D ratio. [...] And all this helps to make a strategy pursuable. (MA8)</p>	<p>We have our magical triangle [...]. On one side we have costs which are our efficiency indicators, productivity etc. Then we have a second column which is supply availability. [...] And the third topic is quality. We think in terms of our triangle which has been heard and seen a hundred thousand times by everybody. (OM5)</p>
3) Strategies and plans	<ul style="list-style-type: none"> - Translate strategic goals into operating goals (Merchant, 2003) - Generation: top-down and/or bottom-up - Expansion and communication added vs. Otley (1999) 	<ul style="list-style-type: none"> - Supports translation of goals from strategy to operating goals - Top-down bottom-up generation more frequently mentioned with target setting, not indicated by strategies and plans - Communication/empowerment (wider involvement) especially lived with BSC (MA8) 	<p>You basically come from strategic planning [...] then realise in the operative planning that you are still away from the strategic target [...] was initially set. [...] Can we live with that – means that we get one's act together at the end or is the deviation so big that we need to readjust somehow. (MA6)</p>	<p>I have a long-term planning [...]. This is what I can compare to the strategy. [...] I do my business plan now, then I get a result target for the business plan, then I get a result target for the business plan, then I get a result target for the business plan. [...] This is what I add to the components, I should come up with the result again. (OM4)</p>
4) Key performance measures	<ul style="list-style-type: none"> - Strongly linked back to strategy and part of implementation (Johnson, Scholes and Whittington, 2008) - Restrain number of key measures in order to balance impact 	<ul style="list-style-type: none"> - Supports idea of indicators linked back to strategy - Further operationalisation: discussion about right and sufficient KPI linked back to strategy, bindingness of KPI (MA8) 	<p>We are in charge of the top 50 indicators. They are discussed [...] with the departments. And will then be published in a report [...] COI, performance of the departments, the targets [...] I see, if I push the cost side too hard, what happens on the other side? It needs to stay an integrated whole. (MA1)</p>	<p>[...] Classical pyramid. At the top I have my EBIT and below [...] I need to take care that I still have KPI and not only PI. [...] we had a very comprehensive strategy process [...]. We have two logics. One is implementation control, the classical milestone tracking. And then we do result control. (OM3)</p>
5) Target setting	<ul style="list-style-type: none"> - Tension: desired vs. feasible (Otley, 1999) - Financial vs non-financial measures - Targets 80-90 percent achievable (Merchant and Manzoni, 1989) - Benchmarks provide legitimacy 	<ul style="list-style-type: none"> - Target setting mainly with financial measures with three approaches: <ul style="list-style-type: none"> * Budget driven process (7, 11, 13, 16) * Strategy driven (8, 9, 10, 12) * Mixed (1, 4, 13) - Focus on financial measures (MA7); non-financial (MA1, MA8) - Pure top-down process precipitated by few (MA4, MA16) and lived by one (MA4); rest of processes appear to be more mixed (first bottom-up and then top-down) - Benchmark only used as internal approach (MA9); and derived from past within organisation (MA4) - No evidence on achievability 	<p>- Target setting mainly with financial measures with three approaches: <ul style="list-style-type: none"> Mainly strategy driven process, less budget driven and mixed - Focus on financial measures (OM2); non-financial (OM8) - Top-down process not appreciated (OM15 against non-involvement); rest of processes appear to be more mixed (first bottom-up and then top-down) - Ex. Benchmark only used as best practice (OM1) - Few evidence on achievability (OM1, OM15) </p>	<p>[...] Our target is always what is feasible and we feel emotionally comfortable if we can say that we overachieved by +5% or +2% or whatever. This means that we are above plan – this is what we like. [...] What is always an awkward process is the arrival of the top-down targets. [...] In an area of management accounts and CFOs we always have such periods of bazar negotiations. This is how it works everywhere. I am an engineer – I don't like this game. But I play the game. [...] It always reminds me of collective bargaining. (OM1)</p>
6) Performance evaluation	<ul style="list-style-type: none"> - Follow up of individual, group or organisational performance - Objective, subjective mixture - Relative performance evaluation (RPE) as alternative approach 	<ul style="list-style-type: none"> - Basic distinction: <ul style="list-style-type: none"> - Individual performance - Group performance - Organisational performance (+) -> Trend to mutualise performance evaluation on subjective performance evaluation - RPE only future idea of MA1 - Evaluation (MA6, MA15) 	<p>Here you have [what we call] individual management. Individual management means a monthly individual meeting with your boss. So you have a mission for the year. For this mission you set an ambitious indicator in each position. With a semi-annual review and yearly review. (MA10)</p>	<p>We have a new topic for executives which is [...] eight competencies [...]. These are competencies that a manager should possess. Depending on the position on different levels. [...] A target profile is determined. And the actual profile is compared [...]. If there are gaps we need to find measures based on a tool bit [...]. And on employee level, we have the normal performance appraisal discussions and qualification discussions where we try to trim the employees in the sense of the organisation. (OM12)</p>
7) Reward systems	<ul style="list-style-type: none"> - Recognition, financial reward, promotion - Target: align personal goals with organisation (Howwood, 1972) - Basic requirement for impact of reward on performance: skill management (Bourner and Sprinkle, 2002) - Group reward based on collective achievement 	<ul style="list-style-type: none"> - Financial reward: mixed (shopfloor, global/local targets) - Recognition: only MA16 mentions it (he does not feel it) - Promotion only discussed by MA14 (international move, divisional move) - In line with literature for alignment - Group reward not explicitly focused; further aspects: townhall meetings 	<p>We have a bonus payment for the achievement of this [...] target. This is how it works. (MA5)</p> <p>I don't know if the rewarding part is there. I don't feel it. (MA16)</p>	<p>Approximately eight times a year I organise team breakfasts with the blue collars. All kinds of questions can be asked and the current status is presented. This is where current topics emerge from the shopfloor. The alignment with my level is very important. [...] The most important thing is personal appreciation face to face. (OM14)</p>

Appendix J

Cross-case overview: enabling characteristics of a PMS (rSQ2)

Enabling characteristics				
8) Organisational factors	Literature (Ferreira and Ouley, 2009)	Support/ Further operationalisation by MAS	Exemplary quotes MAS	Support/ Further operationalisation by OMIs
	<ul style="list-style-type: none"> - Defined as core characteristic by Ferreira and Ouley (2009) - Organisation structure determines the responsibilities and accountabilities of organisational participants - Strong link to strategic formulation and implementation 	<ul style="list-style-type: none"> - strong link to strategy confirmed - considered as enabling characteristic 	<p>An organisation can support, but it cannot replace if there are no precise ideas about certain [...]</p> <p>responsibilities. [...] [We structure our business] with job descriptions and not with boxes and organisational units. [...] This has the soft factor that people do not stay within their boxes but look for global responsibilities. It is some kind of moral responsibility not to let a colleague down. (OM1)</p>	
9) Information flows and efficiency	<ul style="list-style-type: none"> - Feedback = corrective information = single loop - Feed forward = enable organisation to learn = double loop - Information system = MIS - Information networks = more informal 	<p>Information flows:</p> <ul style="list-style-type: none"> - single loop (majority) - double loop (5,8) <p>MIS:</p> <ul style="list-style-type: none"> - ERP is standard - use of big data currently worked on for financial data => for non-financial data not clear yet - reviews as further mechanisms - informal networks also broadly used <p>NEW: efficiency of information (automated MIS)</p>	<p>Our efficiency programme [...] which measures daily what the performance is of our [shop-floor] employees based on our boards, shop-floor management etc. [...] We discuss it daily with every shop-floor employee: how was yesterday? How many pieces were produced, what was the target, what was the actual and how was the total efficiency? [...] We track this indicator daily. And people start thinking: oh I have two too many today – what shall I do with them? [...] This is how affected people are tuned into parties involved. (OM5)</p>	
10) PMSs use	<ul style="list-style-type: none"> - Use is more important than design - Diagnostic and interactive use (Simons, 1995) - Rigid and flexible use (Hopwood, 1972) - Transactional and relational use (Broadbent and Laughlin, 2007): transactional => means and ends to achieve very specified; relational => stakeholder's view that tends to be less precise 	<ul style="list-style-type: none"> - supports that use is more important than design - supports mainly diagnostic and interactive use - and mix (new) => diagnostic and interactive use very closely related to single loop and double loop information flows 	<p>It is not the case [...] that we cannot live without this tool [BSC] but we use it situationally. And this is how we experienced all the variants. Because first of all you are enthusiastic. Then you bring all your actions into the tool, then they are not really updated or there are many shifts in the projects [...]. So you really need to put a lot of effort into the regular update. (OM8)</p>	
11) PMSs change	<ul style="list-style-type: none"> - Extent and type of change - Antecedents and consequences of change - Proactive or reactive manner - Time lag in design due to rate of change => link to management accounting change 	<p>Three types of change:</p> <ul style="list-style-type: none"> - fundamental (10) - technology based (13, 3) - continuous learning (4, 8) => reactive changes rather than proactive <p>Antecedents: org. restructuring, information needs, c/p</p> <p>Consequences: global vision, gain of efficiency, involvement of MA</p>	<p>A few years ago we were very enthusiastic, we have been working with EFQM like dogs. [...] And we have been spending capacity without end. The topic does not appear to be as important any more. That's a typical performance management system, even a very sophisticated one. But it requires discipline. [...] Because nobody wants the effort any more. At the end the system degenerated by counting points. [...] The EFQM was transformed to a simple performance system by measuring the performance of the points. (OM4)</p>	
12) Strength and coherence	<ul style="list-style-type: none"> - PMS is supposed to be greater than sum of its parts - If no fit, control failures can occur (Ferreira, 2002); also mismatches on hierarchical levels possible - Package vs. system 	<ul style="list-style-type: none"> - supports that system in total is bigger than the single parts (8, 5) - control failures not mentioned <p>Distinction info:</p> <ul style="list-style-type: none"> - corporate system (8) - corporate system without defined deployment levels (1, 10) (Factor: sector of activity) - Functional systems as package decoupled from corporate (5) or only cascaded in functional view 	<p>SQCDP is a global system which works in a cascading manner. Each morning the teams meet on the production line, twice a week the board is filled (and discussed) with the head of production, once a week the board is filled (and discussed) with the plant responsible and once a fortnight with the operations manager [of the division]. [...] Everything is standardised and this is how poor indicators and topics also end up on the board. (OM14)</p>	

Appendix K

Cross-case overview: interaction of the PMS characteristics with the role of the MA (rSQ3)

Arrow	Further exemplary quotes	OMs' view
1a	<p>-Also [the OM is] the one who has requirements towards the MA about KPIs. He [the OM] is supposed to have these because otherwise he does not do his job properly I would say. [...] And the MA needs to be the objective person. [...] He also needs to push him [the OM] (MA5) [conveying objectives, we get the overall objective of 6% productivity increase. And our task in management accounting is to break it down: what does that mean for the four areas that we have in our company? (MA5)]</p> <p>-A year ago, we introduced a management cockpit for the [company name]. [...] Somebody said: it's somewhere and liked it a lot [...]. Where we present the financial key figures on a monthly basis for the group. But it's only a cockpit [...]. Only top-level. (MA5)</p> <p>Well, generally our sales department is also very chaotic and the think about so many things how to gain money [...]. And we are [...] then aligning the people and define clear processes. [...] We need to structure the whole company. [...] Well, what I wanted to do is that I show the MA the one who is responsible for such a PMS. Who defines and edits the requirements of the management, of the OM. (MA11) [PMS use]</p> <p>-And then we have OM, MA, it's a manual exchange. [...] The OM needs to play back information. When he receives a target or a strategy where he needs to participate. (MA12) [Information flows]</p>	<p>The MA has the functional responsibility to prepare the data and to track the planning in a way that it works. [...] And I would see them [OM and MA] on the same level [...]. On equal terms. (OM1)</p> <p>And simultaneously the OM tries [...] to influence on him [the MA] [...] in order to find common targets together with the MA, in order to put measures into practice. (OM2)</p> <p>-Based on the documents that management accounting prepares we go through each measure [...]. Now we developed a more user-friendly system which makes it easier for sales [...] to analyse [...]. Thus the MA also became a guardian of the system of this big data pool and front end [...] together with the IT. (OM5)</p> <p>-I need the MA for the implementation and this is analysis, planning, measurement. Exactly this support [is needed] which is more than just providing data. [...] To provide services to a production system [...]. This is rather a new role which they [the MAs] voluntarily fulfil meanwhile. [...] But I say that somewhere there needs to be an adjustment factor [...]. And this is why there is a MA [...]. (OM5)</p> <p>The MA has an overall view of the issues and is in the loop where he focuses on efficacy [...] and boundary conditions. (OM8) [information flows]</p> <p>-So my expectation in front of me first and the team is that the financial part and the commercial part are more and more linked. And [that there are] some touching points that can be meetings and also workshops in the field. (OM10) [strength & coherence]</p> <p>-Last year, we [OM and MA] followed a relatively extensive strategy process [...] where we defined lots of measures for the single functions [...] [...] We have two logics: [...] one is milestone tracking. [...] And then we also do result control. (OM5) [measures]</p> <p>-We [operations] organise [...] workshops every Tuesday with up to [...] 40 people and there are also MAs attending [...] and where we treat precise issues or improvement topics. (OM5) [information flows]</p> <p>-We now have a so-called dealer scorecard for all the subsidiaries and big importers worldwide. [...] And now it is also part of the company targets, quantitative and qualitative dealer development. [...] We said within sales that we need to make it more transparent and that we need to measure it. (OM9) [measures]</p> <p>-[...] Every store can choose the range and size of the family of products (low large and deep). [...] And you can choose this if you understand your environment, the composition [of customers] of [the market], the share of your market you want to reach and the goals that you give to manage the team. This is the big change. Before people were waiting. Now you are actor, you have to decide. So give the opportunity to your team. They can take responsibilities. (OM10) [measures]</p>
1b	<p>-And then feedback is necessary from the OM to the target system in order to stay realistic. Otherwise we end up with fairy tales. (MA1) [target setting]</p> <p>-And the characteristics are more or less given in collaboration with the operative manager [...]. (MA15) [general]</p>	
2a	<p>- [...] And he [the MA] interprets it for the OM. This is the result measurement but as well real result discussion. A good MA is supposed to have this discussion. [...] [Result measurement works then if this] [OM] does not need to have the focus on the absolute depth of the figures. Our OM's do not have this, they are more customer focused. (MA1)</p> <p>- [...] [For everything which is [...] strategy and ongoing management, we are also in continuous exchange with the operative manager. (MA2)]</p> <p>-Based on this switch to hours, [...]. The understanding of production increased. [...] I think that you can [...] have a more detailed discussion: what happens on which production line? [...] And the production guys know what you are talking about. [...] And management accounting evaluates the measures according to the impact [...] and to the efficiency development. (MA5)</p> <p>The MA generally has further questions [to the sales manager]. Not all the details are contained in the request. [...] The more units are concerned, the more loops there are. (MA6)</p> <p>- This means that you had to convince also the management team that [the BSC] is good somehow. [...] And typically, [there is] a question, then you do an analysis [...] and write a conclusion as a MA [...]. This is much more value-adding for him [OM] and satisfying than such a BSC. [...] And the second important thing is to discuss with the OM to say: what is actually the target achievement? And in the sense of steering: what are the measures that we deduce? (MA8)</p> <p>- [...] If we are not on budget, the target for a key account is to check with the sales director how we can get back on track. So how we can generate additional volumes if volumes are missing. (MA13)</p> <p>-We do these things, we don't drive it really [talking about operative planning]. We do it, we make it happen. We make sure that the lists arrive, we make sure that everyone hands in the information, that the information is there. [...] I am just arguing if the output of all this is what we really want? (MA16)</p> <p>Before, foreign investments was done without knowing the impact on the financials mid-term. And with this tool today we obtain a business case in a specific format. (MA1)</p> <p>-We are involved in target definition and operative support. [...] We have very much operative business. [...] You are happy if you manage to wrangle it all. And unfortunately there is not much time for strategic issues or strategy processes. (MA2)</p> <p>So for me, if this is omitted, the MA has much more time to use the MIS and to check: are we on track, does the strategy fit, and where do we actively need to push [...] measures [...] ? (MA3)</p> <p>-And this is how the MA [...] works on targets, distributes targets. [...] Also [...] in the strategy process, to generate consistent information over a longer horizon and to make success measurable. (MA4)</p> <p>This is where I see the ongoing management that we support with our management accounting system. By analysing, by defining measures [...]. How do the single departments run? [...] And the big step for acceptance was to concentrate on direct employee hours [...]. That we can talk precisely about one working place? [...] And the next step is to have it on a daily basis [...]. (MA5)</p> <p>-We were discussing that the MA is very important for the topic target definition: what exactly do you want to achieve with it? What would be the right indicator? What is calculable, what not? [...] He would do the calculation [...]. And the [...] important thing is that he discusses with the OM [...]. How is target achievement? And in the sense of control, what are the measures that we deduce? (MA8)</p> <p>- [...] And the MA scales [the requirement of the management with regard to the budget] respectively into the PMS. (MA11)</p> <p>-The targets that we receive are of course integrated into the cost planning and broken down. (MA12)</p> <p>-So this concerns the more long-term oriented financial goals that we support here from finance together with headquarters and where we deliver the input to fix the strategy [...]. (MA13)</p> <p>-In the context of further planning cycles [...] we do not plan only once a year – it will be adjusted, it will be corrected. (MA14)</p> <p>-Standardisation took some time because there were different understandings about SAP usage in the different companies. [...] We standardised everything to the date of performance. And this is how we are able to have comments on a weekly basis: you planned to work 150hrs, in reality you only worked 120 hrs. [...] This is how we can report it. (MA15)</p>	<p>Of course, it is the task of the MA [...] to steer the job of the OM. And to approve his requirements if they stick to the targets. [...] And then the daily action of the [...] sales management accountant [...] is to check on a weekly/monthly basis how it [the business] runs. And then to countersteer. (OM2)</p> <p>-Of course, the MA informs and controls the OM, makes proposals so really the broad definition. (OM3)</p> <p>-And the next step is to come up with ideas what could be improved. And especially, what we [operations] don't know is, where the levers are. As engineers we do not know that much what the [financial] impact of each measure is. (OM4)</p> <p>-So I have the impression that they [management accounting] have a stronger exchange with sales [...]. Globally, I think that management accounting developed strongly into a role where they are an essential part of the entrepreneurial extent or view. [...] I have the impression [...] that this estimate [...] is frequently checked with us informally in order to develop a common picture before [...] running into a decision. (OM7)</p> <p>- [...] I think that we become more and more professional and experienced in our planning processes. Because management accounting prepares it professionally. [...] service-oriented for the subsidiaries and for us in the sales departments. Everything becomes more bite-sized and more manageable. Easier to use, easier to follow-up. (OM9)</p> <p>- [...] And the improvements in the planning process [...] If management accounting comes to us with ideas and proposals and if we have the chance to comment on it from a business perspective, this is the most successful way. (OM11)</p> <p>-More the support of the running business to monitor where we are with the target achievement. This is what is strongly done by Mr [MA13]. [...] This is for [...] our CEO to see where he stands in his target achievement or achievement of the total organisation. [...] This is all consolidated at Finance [...]. And it is reported back to Italy. [...] here are your ideas, these are our realistic proposals with this P&L. (OM13)</p> <p>- But in this case, management accounting agreed to take the risks, to be confident in the production colleagues to realise the chances. (OM14)</p>
2b		<p>- We analysed the flow of commodities [...]. Our strategy says that we are represented in all regions and that we can serve all local customer needs. And then we realised [...] that the total distribution does not fit. This is where he [the MA] did an analysis and where we decided on certain modifications. So I think [...] that I could [...] give a few examples where he proposes [measures] and does things on different strategic levels. (OM8) [strategic measures]</p> <p>- So the management accounting team provides monthly reports for all countries. So that we can check the performance of certain projects or also the total countries [...]. The MA [...] establishes instruments or uses tools that permit to generate analyses that compare the business and the performance [...]. Also for example to control the performance and the variances to the planning. (OM11) [measures]</p> <p>-The MA is a little apart [...]. He takes the data in order to report and in order to fill the system for the next year in order to generate new targets etc. (OM13) [target setting]</p>

OMs' view	
Further exemplary quotes	OMs' view
<p>- [...] The problem was that sales focused too much on volumes. And this meant that there was zero result responsibility of the sales department. [...] Currently sales is more involved in result responsibility through this system and we feel an improvement because they are directly measured with incentives based on the result of this system. (MA2)</p> <p>- [...] If something went wrong we see it based on the indicator. And if something was good we also see it based on the indicator. And through the daily scheduled shop-floor discussions [...] the employees learn [...], which measures make them advance [...] and which are not so efficient. (MA5) [strength & coherence, information]</p> <p>- How good are you in terms of competencies? [...] And these are typical management tasks [...] because it always needs the know-how of the manager to evaluate how strong the competency level really is. (MA8) [performance evaluation]</p> <p>- And when it comes to deduce operative issues from this PMS [...] then I consider it as a task of [...] the operative manager to break them down on a doing level. (MA9)</p> <p>- And this price floor is no longer valid once we put the project into practice. And this means that the empirical values from the last 40/50 years are no longer valid. And this is where we need a solution. And this is very difficult and very emotional [...]. And this is really a change of steering. (MA12) [PMS change]</p> <p>- Many things are fixed in volumes for the sales department. But volumes do not pay my salary. My salary is paid by at least [...] a turnover or profit. (MA15)</p> <p>- So for me, if this here [the manual reporting] is omitted, the MA has much more time to use the MIS and to check: are we on track? Does the strategy fit? Where do we need to assess [...] measures? (MA3)</p> <p>- This means that the monthly meetings with the head of division [...] - the figures are prepared by my MAs. Before this review I have a meeting with my MAs where they show me what they could observe in the different sales areas. [...] During the review with the sales responsables I take notes [...]. [...] And they [the MAs] take up these minutes in the following month and check if there was a positive or negative development. (MA3) [information flows]</p> <p>- It changed in terms of steering the business more operationally with a set of available organisation and meetings [...] where the MA is represented. [...] Before the MA was the killjoy because he criticised budgets or because he did not approve investments because of payback periods etc. We have a much stronger outcome orientation now. On the other hand, [...] there is a stronger interest on commercial topics from the functions [functional managers]. (MA4) [organisation, information flows]</p> <p>- There are significantly less requests [for rebates] that are to be treated. [...] If it is a request for one unit or for a hundred units, it is a request that needs to be analysed. And it takes almost equal time. [...] And now the single requests are omitted. And the time is used for a hopefully better analysis [...] of the other requests. (MA6)</p> <p>- Watch out, if you set the assumptions like that, then it has this impact. [...] And we need to work on the issue that we do not input 70 percent know-how but rather 90/95 percent. They are not fortune-tellers. [...] Currently we have a commitment problem for the business case. (MA7) [strength and coherence]</p> <p>- Today I strongly work on the topic big data e.g. You know: we generate 20% of our business online. There is a lot of data to analyse. I also work a lot with logistics. (MA10) [information flows]</p> <p>- From the third to the seventh working day we are busy with consolidating, preparing, changing, doing plausibility checks [...]. (MA15)</p> <p>- It was not a process which happened overnight but it took some time. It actually took a few years until the sales colleagues internalised it [the result orientation]. (MA2)</p> <p>- It was proposed by us. But – of course – it did not happen overnight. [...] There was also enormous resistance due to high manual effort. [...] But this effort was worth it for interesting issues. (MA4)</p> <p>- And the biggest step of acceptance and comprehension was the concentration on employee hours [...]. [...] We already have it since a few years this hourly system. [...] And the next step is the daily hours. (MA5)</p> <p>- At the beginning we were not highly welcome because we slightly stepped on the toes of the people [...]. [...] After a few months it changed. They suddenly asked for the reasons when we had to cancel a meeting [...]. (MA12)</p>	<p>- And then we have business meetings at the end of the year October/November where we enter in more detailed discussions about the planning of the following year with management accounting and where we define measures, targets and ways together. [...] In a big company as [organisation 2] the company can only be controlled based on clearly defined targets and a clearly defined strategy. (OM2) [information flows]</p> <p>- Hey, your milestones are not achieved, your result target is not achieved or overachieved. It does not necessarily mean to be bad. And sometimes it is feast or famine. And to celebrate success is also a thing that can be done with good cause. (OM3) [measures]</p> <p>- Yes, I really need to be engaged in the data, I need to read them and I need to say: What do the data mean to me? This is why it is always important [...] that I have simple indicators that the differences are quickly explainable and that I can transfer a figure into a physical effect. And then that I can really deduce: How can I modify this physical effect which prevents me from reaching the target. (OM4) [measures]</p> <p>- And this is an automatism [...]. Then I [OM] receive an email that says: [...] application finished, approved, rejected – whatever. (OM6) [information flows]</p> <p>- It [the BSC] helps to structure and to focus on really relevant issues with the strategy map and to omit things. [...] What is really difficult is the real control and to carve out the effectiveness of strategy implementation based on the tool. [...] It is used situationally. [...] The real value is the means of communication and discussion. (OM8) [strategies]</p> <p>- But it is a circle. Information is something that turns around like this. It is not purely linear. It is all linked. [...] But today it is not a reality. [...] The arrow would be the target in the future. (OM10) [information flows]</p> <p>- What we get is a complicated Excel file with 150 VLOOKUPs and links and you are not allowed to touch because otherwise it does not work any more. [...] This is where we are too complicated. [...] I would like to look at certain things real-time. [...] Because I frequently need to take decisions on information current to the day [...]. (OM12) [measures/targets]</p> <p>- I do not get the green smiley or red smiley. But if I want to understand what happened [...], I need to make an effort in order to analyse the complexity and interaction. (OM1) [measures]</p> <p>- And a certain scope of information goes from the system to management accounting. (OM3) [information flows]</p> <p>- It is our tool. It is very normal to integrate a MA in our process. And to give him the necessary support and training [...] that he can do his job properly in our interest or in the interest of the company. (OM5) [information flows]</p> <p>- And I think that, through [...], the regular strategy process and new evaluation of strategies [...], the role of the MA became even more intensive to deal with [...] market [...], customer and competition [...]. (OM7) [strategy measures]</p> <p>- It lacks transparency [...]. Because there are x steps: from SAP to a cube, from the cube to a CSV file and then into Excel. And then we get it. (OM12) [information flows]</p> <p>- He [the MA] goes and gets his KPIs. (OM16) [measures]</p> <p>- And this is how the model harmonises over a long time and stabilises in a balanced way. (OM2)</p> <p>- This is perhaps a good example how we approached these issues step by step over a longer period – it actually took two, three, four years. (OM5)</p> <p>- I find that it worked out fine but it developed over years because we perhaps mutually trust each other. (OM6)</p> <p>- This is an ongoing circle. (OM16)</p>
3a	
3b	
circle	

Appendix L

Further quotes: five influential factors of interaction – also found in the literature (rSQ4)

Reference to literature	Influential factors	MAs' view		
		Factors rather enabling interaction	Factors rather blocking interaction	Exemplary empirical evidence:
Ferreira and Otley (2009): third level of PMS framework	culture	<ul style="list-style-type: none"> - discussion culture, understand need for transparency, accept transparency as something positive (MA7) - strong values (MA10) 	<ul style="list-style-type: none"> - avoidance of responsibility and blind obedience to hierarchy (MA13, MA14) - lack of cross-functional thinking / spirit (MA7) 	<ul style="list-style-type: none"> - And it is very important for us to collaborate across organisations. [...] We live in very strong bubbles or boxes. (MA1) - That everybody knows how it actually interacts. [...] So with transparency you manage to enhance the discussion culture. [...] For me it is mainly this functional view, the own interest from the function, why it clashes. As already mentioned we try to [...] connect the business case and business plan view [...]. (MA7) - If the manager says it is black, then it is black [in Italy]. (MA14)
	contextual factors	<ul style="list-style-type: none"> - internationalisation (MA1) - downturn, consolidation (MA4, MA7) - digitalisation, new technologies (MA9), big data (MA10) - market, sector of activity, business model (MA11, MA14) 	<ul style="list-style-type: none"> - success of the company (MA2, MA9) - legal requirements (MA12) 	<ul style="list-style-type: none"> - The internationalisation of the business increased. (MA1) - It also depends on the success of the company. I mean our company has been successful for the last 10/15 years. (MA2) - It's a very complex market that we have and also the business model. (MA11) - We are just about to introduce the transfer price topic. [...] Until today we managed it with one-time payments and auditors did not like that [...]. (MA12)
Katz and Kahn (1978): surrounding factors	personal factors (Byrne and Pierce, 2007)	<ul style="list-style-type: none"> - maturity, experience, acceptance, standing (MA3, MA12) - personality (MA1, MA2, MA3, MA10, MA16) - mindset (MA10) - training, qualification (MA1) - motivation (MA4) - stress resistance (MA4, MA7) - no embarrassment (MA1) - curiosity, openness (MA6) <p>Individual orientation/background:</p> <ul style="list-style-type: none"> - knowledge about sector of activity (MA1, MA7) - precise support (MA5) - acceptance (MA7, MA15) of responsibility for business and figures - inner motivation and future job perspective (MA3) 		<ul style="list-style-type: none"> - These guys were really stupid. [...] The only thing they knew was Excel. [...] This was their right to exist. (MA1) - He has such a high knowledge about the sector [...]. If he goes to the OM and can talk about [a customer's] decision on his own, then he says "OK – what do you want?" (MA1) - We could talk precisely about a working station and say: "look, at this station the performance [went] down vs. average last year" [...]. (MA5) - You will never be the same MA with 20 or with 40. (MA3) - And this is why new things are refused. (MA6)
	interpersonal factors	<ul style="list-style-type: none"> - mutual confidence - mutual understanding / acceptance - discussion culture on equal terms (MA1, MA7, MA12, MA14) - involvement of third parties (MA16) 		<ul style="list-style-type: none"> - And everybody is interested in. [...] And this is for sure a topic that motivates. (MA4) - Even if we understand each other very well on an interpersonal level. (MA14) - I also involved people around me that somehow needed the information etc we made like a bigger case of this. So of course we increased the acceptance. (MA16)
	organisational factors (Byrne and Pierce, 2007)	<p>External ownership, regulation:</p> <ul style="list-style-type: none"> - listing on stock exchange (IPO) (MA1) <ul style="list-style-type: none"> - reorganisation of organisation (MA10, MA14, MA15) - economical situation (MA1, MA13) - variety of sectors (MA1) - steering structure and reporting structure not identical (MA16) 	<ul style="list-style-type: none"> - family-owned (MA9) - age of organisation (MA12) - standardisation within company (MA15) - strong hierarchies (MA6, MA12, MA15) - dependencies across departments and strong division of labour (MA6) 	<ul style="list-style-type: none"> - The change happened with going public [...]. (MA1) - Where I have liberties is with regard to the future. There are no really good systems [...]. And this is where the creative leeway is. (MA4) - The issue is that I am not all alone. [...] But others are dependent on me and I depend on them. (MA6) - Our manager just arrived from the other division and she knew how it worked in this division. (MA6) - Now we are a federation of autonomous countries. And there is no more worldwide BoM. Every country is autonomous to take decisions up to €15m. (MA10) - If they have requirements from their [majority] shareholder. (MA11) - It is a little difficult because you intervene in a structure which is 40 years old [...]. (MA12) - But we were not capable yet as we were so split and as everybody had his small empire [...]. (MA15)
New – this study	New aspect of organisational factors: resources	<ul style="list-style-type: none"> - timing aspects (MA1) 	<ul style="list-style-type: none"> - lack of resources: prioritisation, time, capacity, backoffice reduction (MA2, MA6, MA9, MA12, MA13, MA14, MA16) - lack of information, IT systems (MA9, MA13, MA16) 	<ul style="list-style-type: none"> - Timing is also important. It is the main point that field is harrowed and plowed. Then you can do everything. (MA1) - We don't have much time to think strategically because there are so [...] diverse operative tasks. (MA2) - As we work a lot with excel or not in an integrated manner, it is also simply a topic of capacity [...]. (MA9) - We will work on a shared service idea [...] to have more capacity [...]. (MA12) - Then we lack in resources, with regard to information as well as time. (MA13) - There is a gap in relation to the information also that is available. (MA16)
New – this study	gaps across all factors	<ul style="list-style-type: none"> - process-related gap of the organisation which is considered value-adding by the OM (MA3, MA11, MA16) - gap of appropriate tools simulating the future, need for concepts modelling the future (MA4, MA14) 		<ul style="list-style-type: none"> - Where I have liberties is with regard to the future. There are no really good systems [...]. And this is where the creative leeway is. (MA4) - We always try to implement issues which are also relevant. (MA11) - A MA is always a driver if there are major gaps. Then the MA must be a driver. (MA13) - We developed models in Excel where you simulate within a cost centre group where you have for example five electricians to spare [...] and where we discussed this result with the other departments in the context of the operative and strategic planning. Who [...] needs such a qualification profile and who could take them over, so what would be the career destination. This is what we actually started very early and it developed over time. (MA14) - I mean they saw a value. I mean this is why we built that thing for them. And we also saw the value of the information. (MA16)

Reference to literature	Influential factors	OMs' view		
		Factors rather enabling interaction	Factors rather blocking interaction	Exemplary empirical evidence:
Ferreira and Otley (2009): third level of PMS framework	culture	<ul style="list-style-type: none"> - <i>Controller Akademie</i> philosophy of the company; training for every manager (OM8) - organisational values (OM9) - a process is not the strength of an Italian company (OM13) – it lives of its people - transparency vs. confidentiality (OM2) - entrepreneurial risk taking (OM14) 		<ul style="list-style-type: none"> - We could be much more result-oriented if we had more transparency [in terms of contribution margin]. (OM2) - And this company follows this school of thought. If you are against it, you do not have a future here. I already attended one of these courses myself. (OM8) - In our company different doctrines are important: [...] subsidiaries have many liberties, they need to respect corridors [...]. (OM9) - The experience on the free market was missing. We made a risk analysis together: how do I manage these risks? Which mitigations are there. How much result potential is there if I convert risks into chances. (OM14)
	contextual factors	<ul style="list-style-type: none"> - economical situation: occupation situation in plants, employment guarantee (OM2) - legal and political requirements (OM2) - internationalisation (OM3) - market (OM13) / sector of activity (OM3) / business model (OM1) / strength of competition (OM2) / contractual obligations (OM1) - downturn of company (OM9) 		<ul style="list-style-type: none"> - I think that if you want to do management accounting well, you need to understand the context. (OM1) - For example, [...] electrification with the environment bonus. [...] And [the company] has lobbyists and tries to influence the external surrounding conditions. (OM2) - They [MAs] drowned in actualisations or old data etc. And this is why the implementation of the system is a securisation of a certain quality and formality [...]. (OM2) - We have lots of foreign subsidiaries which are not yet steered in the same format. (OM3) - The aftermarket business is a process, a system-driven business, it is the backbone, it needs to work. (OM3) - In my view, the MA is too far away in order to have a value-adding discussion with the key accountant. (OM13)
Katz and Kahn (1978): surrounding factors	personal factors (Byrne and Pierce, 2007)	<ul style="list-style-type: none"> - personality (OM1, OM3, OM4, OM8, OM11, OM14, OM16) - curiosity, mindset, spirit (OM1) - experience (OM4) - discipline (OM4, OM8) - acceptance (OM4), knowledge about cause-effect (OM4, OM10), be part of success story (OM4, OM5) - motivation, future job perspective of MA (OM3) - knowledge about sector of activity (OM1), about functional challenges (OM5) - acceptance (OM11), support business 		<ul style="list-style-type: none"> - We already had bad experience with people who think only unidimensionally. [...] Honestly speaking, I still do not care about boxes of organisation charts. The decisive point is, which spirit people have who fulfil a function. And if they have a clear awareness what their function is about. [...] An organisation can support but not substitute if there is no clear idea how such a job or responsibility looks like. (OM1) - For me as president of a unit it is important to have skilled people [...]. It is important that all try to understand the business. We also have operative days. [...] Everybody has three on-site missions per year. (OM1) - I have an excellent MA. Thank God. She is my right hand. (OM3) - This [EFQM] is a typical PMS, even a very sophisticated one. But it requires discipline. We hardly achieve to maintain one PMS in production: shop-floor management cycle. (OM4) - We tried to introduce the people to the production system and trained them. (OM5) - What I described [about MA8] [...] is a lot about personal constellation. (OM8) - You really need high efforts in order to keep it up-to-date. (OM8) - The big difficulty of the financial department is to translate numbers into reality. If you understand this you do very well your job. (OM10) - In my view, the management accounting team can be successful if it is accepted and appreciated by the [sales] teams [...]. And this happens, if the [sales] teams feel being supported. (OM11) - He is the youngest MA we ever had. [...] But what he brought was humanness. (OM16)
	interpersonal factors	<ul style="list-style-type: none"> - on equal terms (OM1) - mutual understanding, confidence (OM6, OM7, OM8, OM11, OM15, OM16) - on equal terms, added value (OM11) - close exchange, interest in activity of OM (OM16) - involvement of OMs (OM11) 		<ul style="list-style-type: none"> - For me it is important [...] to approach on equal terms. [...] And it is no one-way street but works [...] in both directions [...]. (OM1) - It was easy, I could already build on understanding and confidence. (OM6) - Sometimes they lack understanding for the daily business of sales. (OM11) - That the MAs should have interest for operative topics [...]. In any case for example if they want to implement changes or generally want to support the [sales] teams more, they need to involve the sales teams on time. (OM11) - The workload needs to be prepared or facilitated so that we [OM and MA] are able to speak one common language. (OM15) - And [the MA] managed to do that by talking to the people and by asking: what do you need? (OM16)
	organisational factors (Byrne and Pierce, 2007)	<ul style="list-style-type: none"> - leadership structure (OM4) - vision of the hierarchies (OM11) - stronger sales growth than internal growth (OM12) - integration of MA in functional challenges (OM5) - reorganisation of company (OM15), heterogeneous company (OM15) 	<ul style="list-style-type: none"> - division of labour (OM9) - strong hierarchies (OM12) - decentral structure (OM12) => rivalry 	<ul style="list-style-type: none"> - First, [...] leadership models changed. Second, we are in a matrix organisation which is very different in terms of leadership. (OM4) - If you re-orient your production and if there is a project team, please don't forget the MA. [...] He needs to understand production and lean [management] almost as well as you. (OM5) - For example, the dealer scorecard is division of labour and not their scope of tasks. (OM9) - Dominant persons that satisfied their ego and if these guys can decide [...]. (OM12) - And check your rigorous [quarterly] planning because we have quarterly closings and we need to attain certain milestones figure-based. [...] The requirement is that planned figures are as precise as possible. (OM13) - He even told me in the past that he is not allowed to [do something else]. (OM15)
New – this study	New aspect of organisational factors: resources	<ul style="list-style-type: none"> - timeliness of information (OM5) - availability of resources (OM2) 	<ul style="list-style-type: none"> - implementation of new IT system (OM11) => less time effort for analysis - lack of IT system (OM3, OM9) 	<ul style="list-style-type: none"> - I have the advantage to be in the German market. [...] We had sufficient resources and invested them to advance with a PMS. (OM2) - And we don't have the software because it was not highly focused in the past that it is important. (OM3) - Well the expectancy currently is [...] that we only need half of the management accounting resources. (OM4) - But what do I deduce as measure? Then I need a fresh information and need to process it right away, like drinking champagne as long as it is fresh. (OM5) - What we really have is a limitation of resources: where do we need to do more and how do we manage it overall. (OM8) - With regard to systems support, we are not so good. [...] We need to say manually: what are the costs of a product [...], and what is the price, OK? This is a lot of effort. [...] And there is this culture: IT costs are bad. (OM9) - In January, a new system was introduced. And now for example most of the time is invested in the development of new processes and procedures. And this is how they spend less time with sales. (OM11)

Appendix M

Additional findings and discussion – not directly related to the research objective

Concept	Explanation
Information system integration	<p>According to Chang, Ittner and Paz's (2014) quantitative study, information system integration has positive effects on the MA's organisation's perceived effectiveness in each of the MA's roles. The association between strategic partnership activities and management accounting effectiveness is moderated by the extent of information system integration adoption. This relationship is tentatively suggested by the study data, even though a qualitative study does not examine correlations and despite information system integration not being fully implemented in the study organisations. According to MA3, MAs are aware of the necessity of the MA's role change once the systems are in place: "The system [...] will entirely change the role of the MA. [...] If you take away the current operative activity [...] [the MA] needs to have future perspective."</p> <p>OM3 comments that – after the implementation of an integrated BI system "[...] management accounting continues the analysis [...] but will support me and my work even better [...]. And it all runs quicker and with more fun because you do not need to cobble the data together in Excel or collect all the stuff based on access databases."</p> <p>Thus, combining the empirical findings of Chang, Ittner and Paz (2014) with these study data, the general link between PMS characteristics and the role of the MA is supported. It also supports the renaming of the PMS characteristics into information flows and their efficiency as suggested in Section 6.3.</p>
Beyond budgeting	<p>A further finding refers to organisation 10 which stopped all the old processes and re-organised the total organisation including the management accounting processes. A very structured corporate budgeting system with a worldwide deployment was replaced by a more entrepreneurial and decoupled "beyond budgeting" approach (Hope and Fraser, 2003). In this system, according to MA10, the CFO obtained a new role as the focus is shifted from back-office activities to the entrepreneurial design of the future. MA10 comments that</p> <p>"[...] my task is to secure growth. [...] I do not do much finance any more – it is still an operative job – but not much finance."</p> <p>Transferred to the context of this study, budgeting is categorised as a tool among the PMS core characteristic of strategies and plans. In this logic, working with beyond budgeting could mean that the focus within this category is shifted from plans to strategies. This could also support a potential further shift of focus to the enabling characteristics and thus support the role change of the MA to a business support function.</p>