

# Coordination under uncertainty

## A sensemaking perspective on cross-functional planning meetings

Lukas Goretzki and Martin Messner

*Department of Organisation & Learning, University of Innsbruck,  
Innsbruck, Austria*

### Abstract

**Purpose** – This paper aims to examine how managers use planning meetings to coordinate their actions in light of an uncertain future. Existing literature suggests that coordination under uncertainty requires a “dynamic” approach to planning, which is often realized in the form of rolling forecasts and frequent cross-functional exchange. Not so much is known, however, about the micro-level process through which coordination is achieved. This paper suggests that a sensemaking perspective and a focus on “planning talk” are particularly helpful to understand how actors come to a shared understanding of an uncertain future, based upon which they can coordinate their actions.

**Design/methodology/approach** – This paper builds upon a qualitative case study in the Austrian production site of an international manufacturing company. Drawing on a sensemaking perspective, the paper analyses monthly held “planning meetings” in which sales and production managers discuss sales forecasts for the coming months and talk about how to align demand and supply.

**Findings** – The authors show how collective sensemaking unfolds in planning meetings and highlight the role that “plausibilization” of expectations, “calculative reasoning” and “filtering” of information play in this process. This case analysis also sheds light on the challenges that such a sensemaking process may be subject to. In particular, this paper finds that competing hierarchical accountabilities may influence the collective sensemaking process and render coordination more challenging.

**Originality/value** – The paper contributes to the hitherto limited management accounting and control literature on operational planning, especially its coordination function. It also extends the management accounting and control literature that draws on the concept of sensemaking. The study shows how actors involved in planning meetings create a common understanding of the current and future situation and what sensemaking mechanisms facilitate this process. In this respect, this paper is particularly interested in the role that accounting and other types of numbers can play in this context. Furthermore, it theorizes on the conditions that allow managers to overcome concerns with hierarchical accountabilities and enact socializing forms of accountability, which is often necessary to come to agreements on actions to be taken.

**Keywords** Sensemaking, Accountability, Coordination, Planning meetings

**Paper type** Research paper



Earlier drafts of this paper were presented to ACMAR 2013 (Vallendar), EAA 2013 (Paris), MASOP 2013 (Copenhagen), the Beyond Budgeting Workshop 2013 (Bergen), the Finnish Doctoral Accounting Colloquium 2014 (Samnas) and to research seminars at HEC Lausanne, ESCP Paris, HEC Paris, the University of Innsbruck, Monash University, the University of Sydney, Queensland University of Technology, Université Paris-Dauphine and Helmut-Schmidt University Hamburg. The authors would like to thank the participants of these events for their valuable feedback. They also would like to thank Hans Englund, Jonas Gerdin, Kalle Kraus, Theresa Libby, Kari Lukka, Susan O’Leary, Tobias Scheytt, David Smith and Nicole Sutton for additional comments. Finally, particular thanks go to Silvia Jordan, who helped with collecting the data used in this paper and who provided helpful feedback. The authors gratefully acknowledge funding from the Austrian Science Fund (project P 26902-G11).

## Introduction

Planning has long been considered one of the most important managerial tasks (Fayol, 1916; Koontz and O'donnell, 1955; Taylor, 1911), and organizations spend much time and effort on establishing plans and on monitoring their realization. Planning is commonly associated with both a motivational and a decision-facilitating component. On the one hand, plans are used as target-setting instruments that motivate employees whose performance will be evaluated against the target. On the other hand, planning also obliges employees to anticipate future states and to coordinate their actions with those of others.

The accounting and control literature has been primarily interested in the motivational component of planning. This is reflected in the principal focus of that literature on one particular planning tool, i.e. budgets. Budgets are prominently used in organizations for target-setting and evaluation purposes. Accordingly, the budgeting literature has examined, for instance, how firms define budgetary targets (Merchant and Manzoni, 1989), what kind of incentive systems they use to motivate target achievement (Murphy, 2000) and how they monitor and evaluate such achievement (Hopwood, 1972). Given their focus on results (rather than actions) and their time horizon (usually one year), budgets can fulfil only part of the decision-facilitating needs in an organization. Especially when firms operate in dynamic environments, assumptions made in the budgeting process may quickly become outdated and the budget will likely lose much of its relevance for anticipating and coordinating actions (Hope and Fraser, 2003). Organizations therefore typically resort to more *operational* forms of planning that allow aligning the activities of their members in a more timely and fine-grained way.

A few studies have started to explore such forms of operational planning. Some authors have particularly emphasized that operational decisions require *frequent updates and rolling forms of planning*. Henttu-Aho and Järvinen (2013), for example, observe how rolling forecasts replaced budgets as the main tools for planning in five Finnish firms. Similarly, Bourmistrov and Kaarbøe (2013) examine how two firms introduced rolling forecasts in response to a “growing recognition that the necessary information for making relevant decisions in the context of continuously changing markets was not provided by the budget” (p. 202). Frow *et al.* (2010) describe how managers, when faced with a fast-changing environment, revise plans and reallocate resources on a rather *ad hoc* basis, either in direct cooperation with their peers or by elevating their concerns further up the managerial hierarchy.

Other authors have particularly emphasized the importance of *interaction across functional boundaries*. Chenhall (2008), in particular, points to the importance of lateral coordination mechanisms that allow actors to coordinate across functional boundaries. Abernethy and Lillis (1995) find that firms committed to flexible manufacturing strategies make use of “integrative liaison devices” so as to “allow regular, personal, and intensive contact among experts and decision makers of different departments” (Abernethy and Lillis, 1995, p. 244). Chapman (1998) suggests that high levels of uncertainty require an “involved culture” (p. 738) in the planning process in the sense that managers from different departments need to more frequently interact with each other than in the case of relative certainty.

Whilst these studies have started to examine operational forms of planning, there is still much to learn about *how* these specific planning tools actually facilitate coordination within an organization. In particular, it would seem important to examine

in more empirical depth how managers come to agree on actions despite the inherent uncertainty of the future and the fact that they have different interests and responsibilities. For instance, both [Henttu-Aho and Järvinen \(2013\)](#) and [Bourmistrov and Kaarbøe \(2013\)](#) show *that* firms use forecasting to coordinate among different functional units within an organization. Yet, the details of *how* such coordination is achieved remain unaddressed.

In this paper, we suggest that one way of generating an improved understanding of how operational planning facilitates coordination is by looking at managers' collective sensemaking in the planning process ([Weick, 1995](#)). Sensemaking is an established perspective in the accounting literature ([Boland, 1984](#); [Boland and Pandy, 1986](#); [Tillmann and Goddard, 2008](#)) and refers to a process of social construction ([Berger and Luckmann, 1967](#)) whereby people make things or events meaningful for themselves ([Weick, 1995](#)). [Kraus and Strömsten \(2012\)](#) describe sensemaking:

[...] as a social process whereby managers interpret their environment in and through interactions with others in order to construct accounts that allow them to comprehend the world and act collectively (p. 187).

From our point of view, this is exactly what happens when managers jointly plan future operations, and why sensemaking appears as a suitable perspective for our research endeavour.

Our analysis is based on an empirical study of sales and operations planning in a manufacturing firm. Sales and operations planning (S&OP) involves the prediction of future demand (i.e. sales forecasting) as well as supply-side decisions on how such demand can best be addressed ([Oliva and Watson, 2011](#)). We investigate how sales and operations managers, in their effort to align demand and supply, interact in dedicated "planning meetings". Based on a micro-analysis of meeting conversations, we highlight how collective sensemaking leads to the development of a common understanding regarding the future. This happens when managers exchange knowledge and information, jointly develop new knowledge and collectively render plausible their expectations of the future. At the same time, planning meetings are spaces where accountabilities are enacted and defined. We suggest that cross-functional planning meetings build predominantly upon a socializing form of accountability ([Roberts, 1991](#)), insofar as managers are willing to commit to actions on the basis of what is agreed in the meeting. Yet, hierarchical accountabilities may influence their discussions and complicate the process of reaching an agreement. We show how actors adopt certain discursive strategies to manage the conflicts that emerge from their hierarchical accountabilities and discuss the conditions that allow them to do so.

Overall, our findings contribute to the literature on planning, as they provide a more micro-level analysis of coordination than what is available from existing literature ([Abernethy and Lillis, 1995](#); [Bourmistrov and Kaarbøe, 2013](#); [Henttu-Aho and Järvinen, 2013](#)). The literature shows *that* cross-functional meetings and similar liaison devices facilitate coordination under uncertainty, but it does not elaborate on *how* exactly such arrangements operate. By looking at managers' sensemaking during planning meetings, we provide insights into how coordination is achieved and the role that accounting information can thereby play. Our focus on "planning talk" is in line with the view that managers' understanding of accounting and other types of information is largely developed in verbal communication that takes place, for instance, in formal or

informal meetings (cf. Hall, 2010; Preston, 1986). We analyse how managers use such meeting arrangements to construct a common understanding of forecast numbers and of the operational consequences that such numbers imply. Furthermore, our empirical case allows us to highlight how planning meetings can facilitate the creation of “concurrent visibility” (Chenhall *et al.*, 2013) of different functional perspectives and accountabilities. The creation of such concurrent visibility is a first step to address the tensions that emerge from different accountabilities that can render coordination more difficult.

Our study also contributes to the sensemaking literature in accounting (Boland, 1984; Boland and Pondy, 1986; Englund *et al.*, 2013; Kraus and Strömsten, 2012; Tillmann and Goddard, 2008) by highlighting particular sensemaking mechanisms, such as “plausibilization” and “calculative reasoning”, that managers draw upon when developing a common understanding about the future. Additionally, we shed new light on the interplay between accounting numbers and ambiguity (i.e. confusion about a specific event or situation). Previous literature argued that accounting numbers can reduce ambiguity by virtue of their standardized nature (cf. Kraus and Strömsten, 2012; Robson, 1992). Our data, however, show that the use of accounting numbers may actually increase ambiguity. We suggest that this happens when managers juxtapose different types of numbers that provide competing signals about the same underlying object (i.e. future demand). Such ambiguity calls for further sensemaking through which managers try to form plausible expectations about the future.

The remainder of the paper is organized as follows. The next section introduces the sensemaking perspective that forms the theoretical basis for our analysis. In the third section, we outline the empirical setting and explicate our research methods. The section that follows is dedicated to presenting our empirical findings. The final section is a concluding discussion of our findings.

## A sensemaking perspective on cross-functional planning meetings

### *Sensemaking in organizations*

The concept of sensemaking has become a prominent theoretical lens in the study of organizations (Balogun and Johnson, 2004; Cornelissen, 2012; Drazin *et al.*, 1999; Maitlis, 2005). While it has been used by different authors in slightly different connotations (Weick, 1995, pp. 4-6), there is sufficient common ground among these conceptualizations for us to speak of a “sensemaking perspective”. At its core, sensemaking denotes a process of meaning creation whereby actors “create rational accounts about the world that enable action” (Maitlis, 2005, p. 21). People are on an on-going basis engaged in making sense of their environment and their own actions in a process of what Giddens (1984, p. 5) calls the “reflexive monitoring of activity”. Sensemaking is therefore often rather implicit and unintentional. Yet, there are also occasions that can intensify people’s sensemaking efforts and trigger a more conscious and deliberate effort to make sense of some event or information.

Weick (1995) suggests that two common sensemaking occasions in organizations are *ambiguity* and *uncertainty*. In both cases, the trigger is a perceived problem with the information that people are confronted with:

In the case of ambiguity, people engage in sensemaking because they are confused by too many interpretations, whereas in the case of uncertainty, they do so because they are ignorant of any interpretations (Weick, 1995, p. 91).

An example of a situation in which organizational actors face an increased level of uncertainty and/or ambiguity is in the event of organizational change (Balogun and Johnson, 2004). Change often confronts managers with a gap between their experiences and their expectations (Louis, 1980) and therefore likely triggers a process of sensemaking through which actors seek to establish for themselves the new rules of the game.

Sensemaking may take place in different ways. It may be an individual activity, such as when a manager makes sense of the information she receives in a management report and uses this information as input for her work, or it can appear in the form of a collective practice, such as when different managers come together to discuss a problem and thereby make sense of different types of information. Both collective and individual sensemaking practices are inherently social, however (Weick, 1995). Even if individuals contemplate their actions silently, they tend to take into account, or anticipate, the views of others. Individual cognition is shaped by prevailing social constructions of reality (Berger and Luckmann, 1967).

Many activities within an organization take place under conditions of uncertainty in the sense that actors do not have all information they would ideally want to make a decision or action. In addition, organizations are typically characterized by a multiplicity of information, which can create ambiguity. Uncertainty and ambiguity call for individual and/or collective sensemaking (Weick, 1995). However, sensemaking can be a resource-intensive process, especially if it takes place in the form of meetings or similar arrangements. We therefore propose that organizational actors are likely to develop certain mechanisms for *filtering* those specific events or situations that “really” call for collective sensemaking, and those that – at least for the moment – can be left unaddressed. Heidmann *et al.* (2008) explain that filtering happens when accounting systems provide managers with selective information, such that managers’ attention becomes focused on “selected areas of the environment, but potentially at the expense of other important areas” (p. 246). In a related vein, we propose that there are filter mechanisms through which managers can focus on those issues that are most critical in terms of requiring collective discussion and coordination among managers.

*The sensemaking perspective in the management accounting and control literature*

In the management accounting and control literature, studies applying the sensemaking perspective have typically focused on the role of accounting information or numbers in making sense of different events or situations (Boland, 1984; Boland and Pondy, 1983; Jönsson, 1987). Ahrens (1996) suggests that, depending on the prevailing style of accountability, accounting information may be more or less prominent as a guide and justification for organizational action. In some cases, accounting may be a privileged resource for making sense of reality and, as such, impose “coherence on uncertain organizational processes” (Kraus and Strömsten, 2012, p. 188). At the same time, accounting information itself has to be made sense of, and this happens by locating it within different interpretive schemes or “frames”. Boland and Pondy (1986), for example, examine a budget-cutting process in a school and show how actors make sense of budget numbers by switching between different frames or decision-making models, such as a political or a fiscal/instrumental frame. Such a process of “frame shifting” (Jönsson, 1987) is also observed by Englund *et al.* (2013), who examine how accounting metrics are made sense of in project meetings and are, in turn, used to make sense of

operational realities. The authors thereby identify a dynamic process where uncertainty about the definition or meaning of particular accounting metrics triggers actors' sensemaking about the representational qualities of such metrics which, in turn, motivates them to create new metrics or discuss operational problems that the metrics apparently hint at. In a more recent study, [Englund and Gerdin \(2015\)](#) show that actors may draw upon further numbers and use different "number-to-number tactics" to establish a common understanding about a focal performance number.

*Theoretical framework: collective sensemaking in cross-functional planning meetings*

Existing studies using the concept of sensemaking have significantly improved our understanding of how accounting information is implicated in organizational sensemaking processes. In our paper, we acknowledge and extend this line of sensemaking research in the accounting literature by applying the sensemaking perspective to the study of cross-functional planning meetings. A specific feature that makes this particular empirical setting theoretically interesting is the fact that the actors involved (i.e. sales and operations managers) have different roles and accountabilities, while at the same time, their actions are highly interdependent and, hence, need to be coordinated. Our study thus focuses on a critical, but hitherto somewhat neglected, aspect of management control, and is one of the first studies that examined *how* collective sensemaking about future states actually facilitates cross-functional coordination. The study, hence, differs from previous research on sensemaking about the future ([Kraus and Strömsten, 2012](#)) insofar as it considers the importance of sensemaking in the coordination of production and sales activities. The uncertainty of the future is likely to be a trigger for such sensemaking processes ([Weick, 1995](#)), but it is, at the same time, an object of sensemaking insofar as the actors involved will have to create a shared idea of what kinds of uncertainties (e.g. supply-side- or demand-side-related uncertainties) they actually face, and how they can deal with them in a proper way.

We propose, and later show empirically, that sensemaking in planning meetings facilitates coordination in two main ways. First, it allows the *development of a common understanding of the situation* that actors currently face, or could face, in the future. Such sensemaking is triggered by actors' perceptions of *uncertainty* (i.e. lack of information) or *ambiguity*. Ambiguity may especially arise if the actors involved in the sensemaking process draw on diverging kinds of knowledge (e.g. professional knowledge) and related information. We argue that divergent knowledge creates a challenge in the sensemaking process, as it may lead to different understandings about the current and future state in which the organization finds itself. At the same time, the coming together of actors with different kinds of knowledge and information can support the collective sensemaking process, for it helps create a comprehensive understanding and allows for taking different perspectives into consideration. The question, however, is how this exactly happens, and what mechanisms allow for the development of common understanding in planning meetings. In this respect, we are particularly interested in the role that accounting and other types of numbers can play in this context.

Second, collective sensemaking in planning meetings helps actors to *agree on actions* (or non-actions). A common understanding would in this sense imply that the involved actors become accountable to each other for carrying out the agreed-upon actions. They

(explicitly or implicitly) form the expectation that the others will honour the agreement and indeed will make their contribution to the collective performance. They, thus, enact a “socializing” form of accountability (Roberts, 1991). A socializing form of accountability is characterized by the absence of hierarchical pressure, and reflects an acknowledgement of mutual dependence and reciprocal obligation (Roberts, 1991). By establishing that certain actors are responsible for carrying out particular activities, the sensemaking process may, in some cases, even lead to a more general re-negotiation of the occupational identity and role of these actors, i.e. of who they are, and what they are supposed to do (Weick, 1995, p. 20).

The challenge here, however, is that the actors still face certain hierarchical accountabilities (cf. Roberts, 1991). These can be expected to influence the sensemaking process, as actors may frame the situation in light of what they perceive to be their role and responsibility within the organization. In particular, their reasoning within the meetings may be influenced by the existing control systems used to evaluate their work. Diverging interests related to different hierarchical accountabilities can complicate the sensemaking process and risk “overriding” the intended socializing aspect of the meeting. At the same time, it is through the sensemaking process itself, that actors’ roles and responsibilities may be redefined. For it is by talking and listening to others that people come to understand, and potentially negotiate, their role within the organization. As Weick (1995, p. 20) puts it, “the sense-maker is himself or herself an ongoing puzzle undergoing continual redefinition, coincident with presenting some self to others and trying to decide which self is appropriate”. In other words, the sensemaking situation confronts people with the expectations of others to whom they are accountable and who may try and influence the meaning construction of their counterparts. The second part of our analysis focuses on examining the conditions that help actors enact a socializing form of accountability despite the influence of hierarchical accountabilities.

From the theoretical deliberations above it follows that “common understanding” encompasses two different, though interwoven, dimensions. The first dimension is of cognitive nature and refers to actors’ efforts to render the environment intelligible for themselves. The second dimension is a social (and political) one in the sense that “understanding” is not just about rendering something intelligible, but also about agreeing with a specific way of making sense of a situation. Accordingly, collective sensemaking can include elements of “negotiating” an understanding about something among a group of actors. As mentioned above, these negotiations can be influenced by actors’ roles and accountabilities and they may in some instances require compromises between different perspectives or understandings.

### **Empirical setting and research methods**

Our paper builds upon a qualitative field study conducted in a single organization, hereafter called *PlanCo*. Our field work in *PlanCo* was initially not motivated by our interest in planning, but started off as a research project on performance measurement. When, in the course of this project, we learned about the introduction of a new planning process, we decided to investigate this process in more detail to better understand how it facilitated coordination between the sales and operations units of the organization.

*PlanCo* is one division of a manufacturing company in the metal and plastics processing industry that operates production sites and sales organizations worldwide. As of 2010, the parent company employed more than 7,000 people and generated annual

revenues of more than €1.2 billion, of which PlanCo accounted for about €900 million. The company is organized in three main divisions that manufacture products under several brands. Products are sold to distributors and other companies, as well as to public and semi-public end-users such as schools, hospitals and universities. The company offers both mass-market products and project-specific solutions. The corporate headquarters are located in Austria. PlanCo's headquarters are located in the same place, together with one of its production plants. The five other production plants are located in different European countries. PlanCo's products are sold through sales organizations that are located in different European countries and that cover different geographical areas. The new planning process, which was introduced in the autumn of 2009, was a division-wide initiative that involved PlanCo's production units and sales organizations.

Field work in PlanCo was conducted from May 2008 to October 2011 and was predominantly focused on the Austrian production site. Data were collected through different methods. First, we conducted 59 interviews with managers and employees, mostly lasting between 40 min and 1 h. All interviews were recorded and transcribed. Second, we attended 14 meetings to experience "live and direct" how managers interacted with each other (see [Appendix 1](#) for a full list of interviews and meetings). Finally, we reviewed company-internal documents, such as presentation slides and recent issues of the employee magazine, as well as public documents, such as the parent company's recent annual reports. Given our initial interest in performance measurement, as explained above, not all our data gathering was focused on the planning process. The other data obtained nevertheless proved helpful for the purpose of this paper, as they were informative about the context in which the concern with planning emerged ([Hopwood, 1983](#)).

Of particular interest for the micro-analysis in this paper, however, were the monthly held "planning meetings", which were introduced at the end of 2009. In these meetings, representatives of the different sales organizations and plants would discuss sales forecasts for the coming months and would talk about how to align demand and supply. The meetings constituted a "relatively predictable location for conducting micro-analysis" ([Hall, 2010](#), p. 312). We were able to attend four such meetings, in the months of April, July, August and September of 2010. Each meeting was recorded and subsequently transcribed, and was then analysed in light of our research interests.

Data analysis was carried out in an abductive way, i.e. by moving back and forth between our empirical observations, theoretical concepts and previous research until we were able to tell a theoretically meaningful story that would offer a distinct contribution to the literature ([Ahrens and Chapman, 2006](#); [Lukka and Modell, 2010](#)). In a first step, we read the transcripts of the planning meetings carefully to understand *how* these meetings proceeded and *what* they accomplished. In particular, this first step led us to identify different "episodes" in each meeting that revolved around different product families. We realized that these episodes followed very similar patterns, in that actors would first try to make sense of the demand situation of the particular product family and, subsequently, seek to coordinate their actions. In a second step, we analysed these sensemaking processes in more detail. Our reading of existing literature suggested that the way in which managers came to agree on a course of action, despite the inherent uncertainty of the future, was still little understood. Hence, our interest was to examine in more detail how a common understanding could be developed, and coordination



achieved, when actors faced the uncertainty of future demand. When reading through the meeting transcripts, we also realized that questions of accountability repeatedly emerged. We therefore analysed the meeting episodes also in light of this concern with accountability. To make sense of our observations, we consulted the material from our interviews which helped contextualize the meeting interactions. In addition, during the entire process of analysis, we repeatedly went back to existing literature on sensemaking, coordination and accountability to render our observations theoretically meaningful and to flesh out our contribution *vis-à-vis* previous research.

We concur with [Lukka and Modell \(2010\)](#) that the validity of an interpretive study is best assessed in terms of the authenticity and plausibility of its analysis (cf. [Kihn and Eva-Mari, 2015](#)). We sought to achieve authenticity by including in our analysis, several examples for how meeting episodes evolved. These provide the reader with “phenomenological detail” that allows for an understanding of the case that arguably goes beyond any summary of it ([Flyvbjerg, 2001](#), p. 85). As far as plausibility is concerned, we continuously refined our interpretations of the empirical material by drawing upon existing theoretical concepts in the areas of sensemaking, coordination and accountability.

### **The emergence of a concern with planning and cross-functional coordination**

The concern with sales and operations planning that gained momentum in PlanCo in 2008 is closely related to a strategy project initiated at the beginning of 2008. PlanCo had just hired a new COO, and expectations were high that he would help the division improve its operational performance. Indeed, soon after joining the firm, the COO presented an agenda for the future according to which PlanCo should be turned into a “Lean Six Sigma” manufacturing organization. This included a focus on operational efficiency, i.e. improving shop-floor productivity, reducing inventories and improving customer delivery performance, as well as a quest for higher product quality. To make this agenda operational, the COO proposed a set of four key performance indicators and defined challenging target values for each of them. In each production plant, selected middle managers and engineers were then asked to form project groups and to start implementing activities that would help the plant to improve upon the key performance indicators. This work started in May 2008.

Quite soon after these project groups had taken up their work, it became clear that performance on two of the indicators was not entirely in the hands of the production plants, but depended to an important extent also on the work of the sales organizations. This was the case for the cycle efficiency indicator (which basically reflected the level of inventories) and for the indicator that measured on-time customer delivery. A sustainable improvement in both inventory and delivery performance was deemed possible only if the production plants could rely on reasonably accurate sales forecasts:

In the past it was the case that the plant tried to somehow generate a forecast out of nothing, and so from our point of view, in order to improve on on-time-delivery and inventory management, it is very important to have the forecast numbers and to be able to give them to our suppliers, so that we are better prepared for what comes in. And today, that’s not the case, we have quite some ups and downs in the use of our production lines. If we manage to get a better handle on this, I think we will also be able to become better in terms of inventories and on-time delivery (Plant manager, I-52).

There were no systematic sales forecasts in the past that would have allowed production volumes to be aligned with short-term changes in demand. Production plants mainly relied on the annual budget numbers that were prepared at the end of the previous year and that provided a sales plan for the different product families for each month. These numbers were given to the production schedulers who could combine them with any additional information available to them, such as their knowledge of the recent development of sales numbers, to determine production volumes for the next few weeks. This approach generated “reasonably good results”, as one manager put it, but could not prevent gaps between demand and supply to emerge, “because there were surprises that surfaced simply too late” (I-43). The uncertainty of market demand was, to some extent, a problem in terms of production capacities, although production workers could rather quickly switch to a different assembly line, such that production of some articles could be scaled up at the expense of others. The key problem, however, was with the sourcing of raw materials, which differed between the products and which had lead times of up to six weeks. Of course, PlanCo could keep higher volumes of these materials in stock to be on the safe side when demand would increase unexpectedly. This, however, was deemed counterproductive in light of PlanCo’s efforts to improve operational efficiency as demanded by the new COO.

Within PlanCo, the forecasting initiative was understood, not only as an effort to facilitate more effective production planning, but also as a way forward to improve communication between the sales and production units more generally:

The mission is to improve communication between the plants and the sales organizations, independent from the fact that we have some problems at the moment. We try to look ahead and to eliminate some of the [negative] emotions in this respect. We try to re-establish contacts. Not all sales organizations were equally well connected with us, not everyone had the same network in the past. And we want to provide people with the opportunity to craft such contacts and to use them also outside the [planning] meetings (Lean Six Sigma manager, I-50).

The objective to “re-establish contacts” between the sales and production units corresponds to a commitment to encourage horizontal coordination within the organization (Chenhall, 2008; Preston, 1986). In September 2009, representatives of sales and operations sat together to define the key points of such horizontal coordination. The forecasting process was planned as a joint initiative between the local sales organizations and the local production plants, coordinated by the global “Business Process Improvement” (BPI) team, which was responsible for the organization of the process. From November 2009 onwards, these people got together in a monthly conference call to discuss sales volumes for the next three months. Within PlanCo, these meetings were often referred to as “forecasting meetings”. Yet, representatives of demand and supply not only talked about forecast numbers in these meetings, but also discussed how the supply chain would have to react to unforeseen changes. In other words, they sought to coordinate their activities by means of sales and operations planning. Accordingly, we will henceforth refer to these meetings as “planning meetings”.

### **Planning meetings as coordination devices**

#### *Meeting episodes*

The planning meetings that took place every month allow insights into the way in which different managers coordinated their actions under conditions of uncertainty. Each sales

organization was represented in the planning meetings with a sales coordinator, who had the job of compiling the forecasts and communicating them to the BPI team. The sales coordinators have an office in the local sales region and participate in the planning meeting by conference call. In addition, each production plant was represented by an operational manager, who was responsible for planning production volumes and communicating them to the production schedulers. The schedule of the planning meetings was defined by the BPI team in the Austrian headquarters. The meetings usually started with the Austrian production plant and, once discussion of the figures for this plant came to an end, the operational manager from the second production plant was invited to join the meeting, and so on. For the other plants, the procedure was basically the same.

Prior to the meetings, the sales coordinators would enter the sales forecasts for their regions into an Excel sheet, which was then distributed to the plants and which formed the basis for discussion in the meetings. In addition to the forecast numbers, the Excel sheet showed the annual budget values (broken down into each month), the order book (which indicated actual orders received up to date) and a linear projection extrapolating the numbers of the order book into the future. Sales organizations also had the ability to enter comments in the Excel sheet, to offer explanations for particular numbers. However, the majority of explanations and interpretations of the numbers was not written into the Excel sheet, but was rather made orally in the meetings themselves. This was especially the case when plant representatives requested additional information about particular forecasting numbers.

Although the planning meetings had been introduced only recently, it seemed that a routine had already been established as to how these meetings proceeded. After the BPI manager had welcomed the meeting participants, the meeting would usually start with some introductory remarks by the operations manager from the respective production plant. He would briefly comment on the forecast numbers in general and would then refer to particular product families for which the forecasted demand numbers were, in his view, in need of further discussion. When the discussion on a particular product family was finished, the meeting participants moved on to another group of articles, and so on. In this way, each meeting can be seen as consisting of different *episodes*, with each episode being dedicated to a product family. It should be noted, however, that these episodes were not always clearly demarcated. Sometimes, managers would “jump” from one product family to the next and then back again, such that individual episodes were effectively interrupted. Nevertheless, when analysing the meetings, a recognizable pattern with respect to how most episodes evolved was observable. According to this pattern, discussions about a product family would usually focus first on the forecast numbers themselves and on whether these numbers “made sense” to the meeting participants. Then, the discussion would move on to address the potential implications that such numbers had for managing the operations of the firm. In some cases, forecasted numbers created concerns with the plant’s ability to match expected demand and supply, such that particular actions on the supply side were deemed necessary. In other cases, such uncertainties did not emerge and so the discussion of the product family in question could more quickly come to an end.

We present below one episode to illustrate the way in which managers moved from talking about the numbers to talking about operational actions. The episode focuses on

a particular product family that, at the time of our research, consisted of one product [product M] for which forecast numbers had been prepared. A new product variant [product N] was about to be introduced to the market, however, and so the question emerged as to whether the forecasted numbers for the product family would already account for expected sales of product N:

Oper. M.: OK, then there would be a question concerning [product M], just in terms of checking the numbers. I assume that part of [the expected sales for product N] is somehow accounted for in here, but the numbers seem rather low. I just wanted to have this confirmed, because last year [...] the different months were not that bad and at the moment we are at a level of 10,000, 11,000, 12,000. And the forecast for May, June is currently at 9,000 and 9,500. Is this more or less realistic? Have you already reduced the numbers somewhat because of the introduction of [product N] or how should I interpret the forecast [for product M]?

Sales C. 1: I can't say much about Austria here, we are approximately at last year's values.

BPI M.: OK, so last year's values for Austria. What about the others? Nadine, Jörg, Bruno? Can you comment on this?

Sales C. 2: In Switzerland [...] I made the forecast according to how the last couple of months have developed, but I haven't accounted for [product N]. [Product N] is not yet included in the spreadsheet. Perhaps we should include it next time?

Oper. M.: Yes, we will include it.

Sales C. 2: And, if I am correctly informed, it could be delivered from next month onwards?

Oper. M.: Yes, this should be the case.

Sales C. 2: Hm [...] Well, I have not accounted for it. I created the forecast according to how the last couple of months had developed.

Oper. M.: OK.

Sales C. 3: It's the same with our data. [Product N] is not included in the data.

Oper. M.: OK, Nadine?

Sales C. 4: I haven't accounted for them either, I mean for [product N]. What I also did not include is the small project business, as I also explained in my comment [in the spreadsheet]. For [product M] we always have a rather short-term project business with smaller quantities. I also oriented myself a bit on the previous months and proposed [a forecast of] 2,700 units. Well, perhaps it will be a bit more, but at the moment I can't forecast this.

Oper. M.: OK.

*[They switch to discussing another product family [O], where similar forecasting issues exist.]*

BPI M.: So, just to make sure, Herbert, with respect to [product M] and [product family O], how would you position yourself here now?

Oper. M.: Well, in the case of [product M], we will definitely orient ourselves at current levels [of sales]. Should there be reduced quantities, then we will try to reduce capacity accordingly, although we will perhaps need this [additional capacity]

anyway for the introduction of [product N]. To build up inventory [for product N], for May, June, is not really a problem yet, because [product N] runs on similar personnel capacities and resources [as product M].

BPI M.: This means that you will have some flexibility here.

Oper. M.: Yes. [PLN-M-1]

The above episode illustrates how different managers collectively make sense of the forecast numbers and their relevance for decisions in the operational realm. Note how the operations manager starts the discussion by inquiring into the representational quality of the forecast numbers (“OK, then there would be a question concerning [product M], just in terms of checking the numbers”). The concern here is with what these numbers represent – or do not represent – and whether they reflect plausible expectations about the future. The second part of the episode is then triggered by the BPI manager, who creates attention for the operational consequences that the forecasts imply (“So, just to make sure, Herbert [...] how would you position yourself here now?”). The episode ends after the operations manager has explained that he sees little uncertainty in terms of the feasibility to match demand and supply.

This pattern of discussing, first, the numbers and their representational qualities and, second, the operational implications of these numbers was visible throughout most episodes. Clearly, the purpose of these discussions is to develop a common understanding as well as to *coordinate* between the sales and operations parts of the firm. The common understanding developed hereby serves as a basis for an agreement about future actions. But how exactly does coordination succeed? In what follows, we will elaborate in more detail on the sensemaking mechanisms that can explain how coordination is achieved despite the inherent uncertainty of the future.

#### *Filter mechanism*

Compared with other, more mechanistic forms of coordination (cf. Cyert and March, 1963), the establishment of common understanding is a rather time-consuming process. Meeting time is limited, however, and so there is a need for some kind of mechanism that specifies what should be discussed in the meetings. Indeed, we observed that only a small part of the product portfolio was actually addressed in the meetings. In other words, there must have been some *selection* taking place. Selection is a central component of sensemaking (Weick, 1979), and it should perhaps come as no surprise that it is also at work in the planning meetings observed. Generally speaking, selection describes the process through which people assign certain meanings and interpretations to the world and, in so doing, create “constraints on subsequent acting” (Weick, 1979, p. 175). While this often happens in a non-intentional manner, the particular selection process that we could observe in the context of the planning meetings took a more deliberate or “calculated” form. We therefore refer to it as a “filter mechanism” that directed managers’ attention towards specific areas and enabled focused discussion of those topics that the managers considered to be the most critical ones (cf. Heidmann *et al.*, 2008).

As mentioned above, meeting episodes would usually start with the operations manager raising questions regarding particular product families, as also illustrated in the following examples:

Well, I would have another question regarding [product X], again for Austria: For May, there is a considerably higher forecast number for Austria, it says here 5,000 units. [...] So, is this, in this case, plausible for you? [...] Because that would be about 3,000 [units] more than usually, that's why I am raising the question here. (Operations manager, M-PLN-1)

OK, I would right away have a question for Thomas concerning [product Z], regarding the forecast for October. It increased quite a bit [compared to previous months], but I don't see any comments [in the spreadsheet]. Do we have a particular [project] here? (Operations manager, M-PLN-3)

It becomes clear from these examples that it was the operations manager who made the selection as to which product families to discuss. Prior to the meeting, he would go through the list of product families and select only those for further discussion where the forecast did not appear "plausible" to him. Note that his reasoning as to what appears (im)plausible to him cannot be based on the perceived *uncertainty* of the forecast numbers. In fact, all the numbers must appear uncertain to him, as he lacks detailed information on what is behind the numbers that the sales coordinators entered into the Excel file. If all numbers are equally uncertain, a different trigger is needed to decide what warrants closer discussion in the meeting. Weick (1995) suggests that sensemaking episodes are often triggered by either uncertainty or ambiguity. While uncertainty refers to a lack of information, ambiguity exists when available information is confusing (Weick, 1995, p. 91). Such confusion can result from the existence of multiple, conflicting cues or interpretations. Indeed, we find that the trigger for the operations manager's questioning of the forecasted numbers was the ambiguity that resulted from comparing different types of information available to him. More specifically, ambiguity emerged when the forecasted numbers did not point in the same direction as other numbers included in the spreadsheet. These other numbers include historical sales units, as in the two examples above, but also actual sales numbers:

[...] at the moment, we are at a level of 7,000 [...] for all product families together. And the forecast is 5,000 [...]. That means that the forecast is quite a bit lower than what the actual sales numbers tell us. (Operations manager, M-PLN-1)

[...] statistical extrapolations based on actual sales numbers:

The data for the [products Z] that currently sell poorly are especially noticeable. Here we have a forecast of 11,000 and a statistical extrapolation of 6,000. So we are currently at about -50 per cent. (Operations manager, M-PLN-1)

[...] budgeted sales numbers:

[...] what puzzles me is that [...] we have now received the [...] new overall budget for the whole fiscal year. And when I compare the budget with the forecast, then there are relatively large differences. (Operations manager, M-PLN-1)

[...] and information obtained from the order book:

[...] the second one is [product Y] which is quite at the beginning in the forecast. It seems to me, when we look at the chart, that the forecast and the incoming orders do not match. [...] I don't understand it because - especially the projects - have already been recorded at the end of, no, at the beginning of February and have, thus, already been recorded in the [order book] when the [forecast]

has been prepared by [Christian] but still it doesn't match. [...] The question thus arises why the forecast for March, for example, is not any higher? (Operations manager, M-PLN-1)

As the above examples show, the operations manager "creates" ambiguity by juxtaposing the forecast numbers with other numbers that also provide signals about future demand. The creation of ambiguity is a strategy that the operations manager resorts to in order to deal with the lack of more detailed information on what is behind the forecast numbers. As he explains:

I see that a number has changed quite a bit [compared to last month], but I don't have any comments on it. That's a signal for me that there is something not quite right. In such cases, I will try to ask what is happening. (Operations Manager, I-51)

We call this mechanism *calculative reasoning*. Due to their calculative format (Vollmer, 2007), one group of numbers (e.g. historical sales numbers) that provides information about an "object" (i.e. future demand) can be used to challenge the plausibility of another group of numbers (e.g. forecasting numbers) that refers to the same object, for instance by assessing that there are "large differences" between the numbers or by actually calculating such difference (e.g. "−50 per cent"). This use of numbers seems to be especially important for actors who work at a distance from the operational reality in question – in our case, the plant representatives who are away from the regional sales markets. Triangulating between different numbers provides such actors with a signal about a potential lack of common understanding. The more strongly the forecast numbers differ from what could be expected based on other available information, the more there would seem to be a need to clarify why such variance exists. The Excel sheet that contains the different numbers can thus be regarded as a "semi-confusing information system" (Hedberg and Jönsson, 1978) that triggers ambiguity and thereby creates awareness for potential coordination problems.

Note how, in the following episode, the BPI manager actively asks for such "calculative detail" to assess the magnitude of the variance:

Oper. M.: Then we would have [product P]. This is for Austria on the one hand, and on the other hand also for Benelux, but equally for Switzerland, where the forecasted numbers for November are very high. [...] Is there a particular reason for this? For this increase? I mean, August seems to be a very good month. According to today's extrapolation, we are significantly above the forecast.

BPI M.: What does "significantly" mean?

Oper. M.: We have 7,500 in the forecast for August, and the extrapolation points to 9,000. So, from this angle, the forecast for November could be right. (M-PLN-3).

To conclude, coordination in the meetings is facilitated by a filter mechanism that channels managers' attention on the products that, in their eyes, require particular discussion. When the forecast numbers entered by the sales coordinators provided different signals than what the operations manager was expecting, what ensued were active efforts to establish common understanding to make sure that sales and operations would eventually act in an aligned way, i.e. according to the same set of numbers.

#### *Creating a common understanding*

Our analysis suggests that central to the achievement of coordination is the establishment of "common understanding" among the meeting participants. Common

understanding implies that actors share the same view regarding the situation they face and the activities to be carried out (Okhuysen and Bechky, 2009). In the planning meetings, such a shared view is to an important extent developed through a process of *informing each other* (Preston, 1986), i.e. by exchanging information that some of the meeting participants do not yet dispose of. In particular, managers use the meetings to *add detail to the forecast numbers* that were distributed in advance. As noted above, episodes would typically start with the operations manager raising questions regarding particular forecast numbers. In so doing, he (implicitly) requests the sales coordinator, who had entered the numbers in the Excel sheet, to add detail to these numbers. As a result, the plant manager and the sales coordinator would enter a conversation in which the sales coordinator opens the “black box” of the numbers. The following meeting excerpt provides an example for such a one-to-one conversation:

Oper. M.: It says 1,000 [units]. Compared to the previous month, you entered double the amount.

[...]

Sales C.: Yes, I have a project in [location], with 700 [units of a product]. That is the product with the [particular specification]. I have the material number here, it is [material number] and then we have another project with an order probability of 80 per cent.

[...]

Sales C.: [...] And then I have a project in The Netherlands with 280 [units of product] with [material number] and here the order probability is 60 per cent. (M-PLN-2).

Note how, in the above episode, the operations manager makes sense of the forecasted number on the basis of another number, i.e. the previous month’s sales volume (“Compared to the previous month, you entered double the amount”). The large difference between the two numbers apparently creates the need for additional information so as to better understand why the forecast is that high. Accordingly, when the sales coordinator responds, he explains his forecast numbers by referring to concrete projects or orders that are already signed off by the customer or are expected to materialize according to the sales agents. When sales coordinators refer to concrete projects or orders, they mobilize local, context-specific knowledge that the operations manager does not dispose of. In so doing, they help the operations manager see the number as a figure that is “representative” of specific sales opportunities – rather than just as a calculative unit on the Excel sheet (that can be compared to other numbers). Such an exchange of information obviously reduces the information gap of the operations manager, i.e. his perceived uncertainty about the forecast numbers.

One should not, however, see the functionality of the meetings only in terms of a “transfer” of information from one person to another. While information is indeed being transferred in the meeting, as illustrated above, we suggest that the collective nature of this process goes beyond that. When different pieces of information or perspectives are combined with each other, a particular understanding of the situation may *be developed collectively* within the meeting itself. The following episode illustrates this, as it shows how the managers jointly make sense of whether the forecast numbers are indicative of a broader trend or not:



Oper. M.: [...] In the case of [product F1], you have planned 50 per cent more [units] as compared to the previous year, and in turn for [product F2], it is 50 per cent less. The question that I have then is whether this is situation-specific or whether that's a trend?

[...]

Sales C.: For [product F1], we have some strong projects in the background, which means that we have a lot of outstanding offers, while for [product F2], we really only have a small amount of offers. [...] However, I did put in some buffer here, because in the case of [product F2], we know very, very little in advance.

Oper. M.: OK, that's why I wanted to dig deeper here, to understand whether that might be a trend or not. I guess we can probably never be exactly sure, right?

Sales C.: No, we can't know it exactly, no. We can't know it.

Oper. M.: OK. Is it perhaps possible, in the case of [product F1] to provide some more detail on the specification of the models? That's all a bit vague at the moment.

*[They discuss some specification issues]*

BPI M.: This is Dominik speaking. I would have a question on this point. If I look at [product F1] and [product F2] and I compare the forecast to the previous year's numbers, then I can see some variance for particular months, but if I look at the whole quarter, then the numbers are on the same level. [...]

Oper. M.: Yes, that's true.

BPI M.: What we just discussed with Nadine, the additional information [regarding the product specification] is useful, but regarding the question of a trend, I could not see a trend from these numbers.

Oper. M.: OK, that's why I was asking. [...] (M-PLN-1).

The above episode includes a transfer of information but, more substantially, involves the sharing of interpretations among the meeting participants. What moves to the fore is what managers can (or cannot) "see" in the numbers and what meaning or significance these numbers therefore attain. Sense is *made* in the meeting and not just transferred.

Furthermore, note how the operations manager at one point in the above episode acknowledges that he and the others "can probably never be exactly sure" about the numbers. Indeed, managers may exchange information and thereby reduce the perceived uncertainty of the different meeting participants; and they may combine their interpretations so as to make collective sense of the numbers. But what they cannot do is to eliminate the uncertainty of the future. Accordingly, we suggest that the establishment of "common understanding" is not just about the sharing or developing of knowledge, it is also about *agreeing to move on* despite a lack of knowledge. When meeting participants create a common understanding of an uncertain future, it is their social agreement that counts, not a reference to some "objective" standard or scientific fact. Ultimately, managers must rely on their collective judgement and decide to go for a particular interpretation or course of action despite their imperfect knowledge of the future.

It is interesting, in this context, to observe that meeting participants would often use the notion of plausibility (e.g. "Is this number plausible for you?") when talking about the forecast numbers. Their lay notion of plausibility can be related to the more theoretical

notion of plausibility, according to which sensemaking is more “about accounts that are socially acceptable and credible” (Weick, 1995, p. 61) than about those which are precise or certain. When managers make sense of events or situations, they tend to look for plausible explanations rather than accurate or true ones (Weick, 1995). This is particularly true when they have to make sense of what is inherently uncertain. Managers then look for a level of “certainty” that is satisficing rather than maximizing (Simon, 1947). Consider the following example that illustrates how they engage in a process of “plausibilization”:

- Oper. M.: Well, there would be another question regarding [product] for Austria again: There is, for the month of May, a way higher forecast for Austria, 5,000 units it says, if you go into detail [...]
- Sales C.1: [...] Yes, the order book includes 2,300 firm ones.
- Oper. M.: For May?
- Sales C.1: Yes ...
- Oper. M.: It says 5,000 [in the forecast] ...
- Sales C.1: [...] and a relatively high probability.
- Oper. M.: So, is this case plausible for you?
- Sales C.1: Yes. Should they not be coming, which [...] OK, then there will be none, but it is pretty sure that they will be coming.
- Oper. M.: OK. Because that makes about 3,000 more than usually; that’s why I am asking.
- Sales C.1: Yes, that’s obvious. Well, there are already quite a few [...] in the order book, and usually there are also some last-minute ones. [...]
- BPI M.: In other words, Herbert, you would be preparing yourself for the higher number, right?
- Oper. M.: Err [...] fine. [...] (M-PLN-1).

There is some information exchange going on in the above episode, but, clearly, the information that is provided can only eliminate part of the uncertainty regarding future demand. What seems to be more important than the exchange of information is to solicit an agreement among the meeting participants that the numbers are sufficiently “plausible” and can be used as input for production planning. In so doing, managers enact a joint responsibility for “moving on” despite their necessarily imperfect knowledge of the future.

This brings us to the second step in the coordination process. Coordination is about the alignment of *actions*, and so, managers need to move from the “world of numbers” to the “operational world” if they want to coordinate their actions. This “move” is also closely related to enacting an important feature of planning meetings: planning meetings serve as platforms for enacting socializing forms of accountability. Thus, an essential ingredient of the collective sensemaking process is to evaluate the current or expected future situation regarding potential consequences, and to assign responsibilities to certain actors. This move can be observed in the meetings whenever managers start to make sense of the numbers in terms of their “consequentiality”. In other words, they create common understanding about the actions to be undertaken. We

have illustrated this step already in our introductory episode, where the BPI manager raised the question as to whether the expected demand numbers would likely cause problems on the supply side or not. If there is agreement that the forecasted numbers do not cause concerns about the ability to match demand and supply in the future, the discussion would stop at this point, and no particular actions need to be discussed. As [Feldman \(1989\)](#) and [Weick \(1995\)](#) point out, sensemaking episodes do not necessarily result in action. They “may [also] result in an understanding that action should not be taken” ([Feldman, 1989](#), p. 20; see [Weick, 1995](#), p. 5). We suggest referring to such an account in the context of our planning meetings, as the “creation of comfort”. When actors create comfort, they agree that no further coordination efforts are currently necessary. This allows the managers to move on to another issue. Note that such agreement would often be tacit in the sense that it exists whenever none of the meeting participants would refer to operational concerns. Their collective silence would imply that the expected demand numbers are manageable and that there is no need for further discussions about how to coordinate activities. In other cases, there would be a more explicit creation of comfort:

- BPI M.: OK. Well, for me the question is, Herbert, the budget level at 13,000, what is our capacity? Is that our usual level of business?
- [...]
- Oper. M.: Even with 16,000 we won't go into skid.
- BPI M.: OK. In other words, should it be going up now, if the requirement, as Nadine just mentioned, goes up to 16,000, would you say we can still handle it?
- Oper. M.: We can handle it. Should it go beyond, we have to do something staff-wise.
- BPI M.: It would be critical, looking at last year's numbers, should we come to a level of up to ...
- Oper. M.: 26 or 27,000
- BPI M.: Of up to 25, 26,000, then we're going to be in trouble.
- Oper. M.: Yes, absolutely.
- BPI M.: OK. In other words, I would say, we should [...] well it seems to be the case, let's say, we leave it as it is, but next month we definitely have to keep a better eye on it, especially regarding the summer, right? (M-PLN-1).

The common understanding that is created in the above episode suggests that no particular actions are currently necessary, as the probability of running into operational problems is deemed to be rather low. If, in contrast, some concerns were raised, then an additional discussion would ensue to address the issue. This could range from a rather quick affirmation that someone was looking into the matter, to more lengthy discussions about how to most appropriately react to the perceived problem. For instance, in some episodes, the discussion would end with the operations manager confirming that he would “prepare himself” for the expected demand numbers. In cases where the solution was not that straightforward, the account generated in the meeting would have to be more comprehensive to create sufficient comfort that things were looked after and also to set appropriate expectations regarding possible operational consequences. This

meant, in particular, that the operations manager would inform the sales coordinators on measures taken on the operational side to deal with the perceived problems:

Oper. M.: At the moment [a colleague] is trying to [improve the availability of materials]. And his statement last week was that at the moment it looks like [the problems with the availability of materials] ought to be solved in October. Last month they said November, now it seems that it's gonna be October. I don't know whether [the supplier] purchased additional components or managed to get additional capacities, I don't know that because [the supplier] actually also has the problem that they can't get any components. So it's not only a capacity problem [the supplier suffers from] but also a component problem. (M-PLN-3).

When such bottlenecks in production raised concerns for meeting delivery times, sales coordinators would occasionally announce that they would pass on the information to the sales people so that these could inform their customers and carry out "expectations management".

To sum up, then, we find that the planning meetings foster coordination, as they allow managers to establish a common understanding of the present and future situation, as well as the actions deemed necessary. The development of common understanding relies on the exchange of information between the meeting participants, the collective creation of sense of such information and the realization of a social agreement among the managers that the expectations are sufficiently plausible to confidently move on. This "moving on", furthermore, entails the enactment of a socializing form of accountability, in the sense that actors commit themselves to a certain course of action.

### **Hierarchical accountabilities as a challenge for coordination**

#### *Concerns with hierarchical accountabilities*

Coordination requires that meeting participants develop a shared understanding of reality and agree on a shared course of action. While our analysis has so far focused on the mechanisms that facilitate the coordination process, we now turn to examine the challenges that may render such processes more difficult. As Weick (1995, p. 144) alerts us:

[...] it is easy in discussions of sensemaking that emphasize common understanding to assume that organizational sensemaking is a quest for the common ground and a spirit of accord. That is too simple.

Because different actors may frame the organization and its environment in different ways (Weick, 1995, p. 133), collective sensemaking may result in a fragmented rather than a common understanding (Maitlis, 2005). And fragmentation renders coordination of their activities more difficult.

Indeed, what we could observe is that tensions emerged in the planning meetings when managers voiced contrasting understandings of the "problems" that they were confronted with, as well as competing views on what should be done to address these problems. Kaplan (2008) suggests the notion of a "framing contest" to describe situations in which different actors compete "over which frame should guide the understanding" of a situation (p. 730). The competing frames that we could observe in the planning meetings were fundamentally tied to what managers perceived to be their

own accountabilities, as well as to what they felt other managers should be accountable for.

In the meetings analysed, framing contests were triggered, in particular, when managers experienced the problems that a lack of sufficient coordination brought about. Operational problems created dissatisfaction – either among the sales people who had to deal with unhappy customers, or among the operations managers who had to find ways of how to solve capacity and sourcing problems. And this made managers susceptible to blaming others for not meeting their responsibilities or, at least, to questioning whether others were trying to meet their responsibilities. This became evident, for instance, in discussions about the plant’s delivery performance, as the following episode illustrates:

- Sales C.: Herbert, this is Bruno speaking, I have the following problem with this forecasting thing. If you [as a sales coordinator] prepare the forecast thoroughly and later you still encounter problems [on the supply side] because the [material] is not available and you have to inform the sales force about [this problem] then they will say, “Well, we have forecasted [the sales numbers] and now we still face the problem of not being able to deliver.” [...]
- Oper. M.: Well ...
- Sales C.: And at the moment I have that problem.
- Oper. M.: Well, I understand that, Bruno, I can see that. But in this case, I conversely also want to promote the awareness that for the sourcing of materials it is not useful if we hear in July that the forecast for August will increase because then we won’t have the components in stock. We would in principle need that information already in April. And [...] in the last months I noticed that the rolling plans for each month had been increased [i.e. corrections were made by the sales team]. [...] At the moment, compared to the previous month, we have increased the plans for August. And actually we are not able to source the components because the suppliers are on vacation. In such situations, we’re always in a bad fix. Actually, we would already need the information about the demand for the summer months in April, May, at the latest, so that we can pass the information to our suppliers [...] (M-PLN-2).

What is at stake in the exemplary episode above is the link between forecast quality and product availability. How this link is made sense of depends on the perspective of the actors. The sales coordinator suggests that even though sales people would invest a lot of time and effort into preparing detailed forecasts, the products would still not be available when needed. Sales people would thus not understand why they should prepare the forecasts in the first place. In his eyes, then, it is the plant which does not come up to its accountability of delivering on time. The operations manager, however, reverses the argument by suggesting that while forecasts *are* prepared, the relevant information would come *too late*. Raw materials cannot be sourced on short notice, which is why a plausible forecast needs to be submitted not just one month in advance, but ideally three months before requested delivery. In other words, the accountability is on the sales people to come up with better forecasts already at an early stage.

The “framing contest” (Kaplan, 2008) that we can observe here thus involves different interpretations of the problem of coordination which, in turn, relate to the invocation of different accountabilities. The operations manager and the sales coordinator respond to each other’s arguments by shifting the responsibility for the problem to the other person. The tension that can emerge from such a framing contest is

obvious: if actors have different understandings of “what is wrong”, then it will arguably be difficult for them to agree on a shared course of action.

In other cases, managers responded to the argument of other managers by means of a more defensive justification of their own behaviour. They made reference to their own perceived accountabilities that went along with their role. The following episode provides an example in this respect. It starts with the operations manager who problematizes the quality of the forecasts for the summer months, in which demand usually turns out to be quite high:

Oper. M.: We always have the problem that [in our plant] we do our holiday planning at a time when the sales force generates only low revenues, that is, in February, March we do the holiday planning and everyone assumes that [sales-wise] we will stay where we are and thus we usually plan very carefully. And later in the summer, we are usually caught by surprise how difficult it actually is [to align demand and supply].

[...]

Sales C.1: [...] It's always hard to tell [when orders will materialize]. And if [there is a chance to get a project], a salesman would of course say to the customer with all his heart, “Yes, we can deliver it and we can do it immediately”. And then he would of course right away try to get the project and to achieve that we can afford [the customer] the best opportunities [to deliver the products on time]. And these are problems we have to deal with more and more during the holiday season.

Oper. M.: That means, others [...] the competitors have to deal with the same problems like we do.

Sales C.1: Yes.

Sales C.2: Yes, That's how it is.

BPI M.: Yes and what *we* can't do, our *competitors* possibly can.

Sales C.1: Yes. But of course, you have to understand how a salesman works. He is of course happy to get a chance to take something [e.g. a project or customer] away from a competitor and thus he would try to do everything to get [the order].

Oper. M.: Yes and that's a good thing. We earn [...] we live from it. (M-PLN-1).

Note how, in the above episode, the sales coordinator justifies the difficulty of producing reliable forecasts by pointing to “how a salesman works”. Sales people would always try to win a new customer, and in some cases, this will be on such a short notice that it cannot be reflected in the forecasts. We can see here how actors' sensemaking is influenced by what [Cornelissen \(2012, p. 127\)](#) calls “role-situated commitment”, i.e. the commitment of an individual “to carry out a set of situated activities as part of his or her professional role”. Speaking in the name of the sales representatives, the sales coordinator invokes the particular role or occupational identity of the sales reps to explain why the forecasts for the summer months turned out to be wrong compared to actual sales in this period.

The way in which managers make sense of their roles is influenced not at least by the expectations that their superiors communicate to them. It is the concern with meeting one's *hierarchical accountabilities* that often shapes people's understanding of their roles and responsibilities ([Roberts, 1991](#)). Lateral forms of control, such as the

cross-functional planning meetings in our case organization, will hardly exist in isolation. Organizations that foster horizontal coordination and control typically institute at the same time result controls so as to motivate and guide employees' effort in a certain direction (van der Meer-Kooistra and Scapens, 2008). In PlanCo, sales representatives faced hierarchical accountability for generating revenues, while operations managers were given objectives for inventory levels and on-time-delivery in line with the recently introduced lean manufacturing initiative. The concern with such hierarchical accountabilities shaped managers' sensemaking during the planning meetings and rendered the creation of a common understanding more difficult. We can see this, not only when managers discuss the reasons behind past coordination problems, as shown above, but also when they seek to agree on an appropriate future course of action. The following discussion is the continuation of the previous episode, where the sales coordinator tried to explain why – especially in the summer months – actual sales numbers would often exceed the forecasted numbers. Note how the BPI manager then goes on to propose future actions to address the problem of uncertainty:

[...]

Oper. M.: Yes and that's a good thing. We earn [...] we live from it.

Sales C.: Yes.

BPI M.: [...] Yes. I think so too. And because of that, I think it is good that we try to prepare ourselves in the best possible way, and improve year-by-year. There are two sides to this. I think, on the one hand, we should try to create better conditions internally and to prepare for something like this. I can understand how the sales rep thinks and acts. And, nevertheless, we also have to try to carry out a proper expectations management towards our customers. I know I'm gonna get punched in the face for saying that, but it doesn't help us if we promise something [to the customer] that we can't keep. [...] (M-PLN-1).

The episode continues with the operations manager who announces his willingness to discuss the matter with the plant manager and the supply chain manager, to see whether a build-up of inventory can be justified in this case:

Oper. M.: I will talk to the plant management and to [the supply chain manager] to see whether we dare to at least pre-order the components for [these products]. For the Easter holiday season, I could not get them to increase our stocks, but for the summer period, there is usually more willingness to do this.

BPI M.: I also think, if we look for example at [a particular product], there we can see in previous year's numbers [...] how they increased, in part they doubled [in terms of volume]. This raises the question whether we should pre-produce. In such cases, I think, we should adjust ourselves.

Oper. M.: [...] The only thing we can in principle do, of course, is to increase stock for the A-products. We can't of course anticipate some project business. (M-PLN-1).

Note how the BPI manager tries to convince the operations manager that building up stock is justified in this case. Such a build-up is in the interest of the sales coordinators who would often try to get the plant to increase inventory levels. Confronted with such requests, plant representatives usually responded in a rather reserved way, however. For them, increasing inventory was problematic in terms of the plant's targets for

operational efficiency and such a decision therefore needed careful consideration. Moreover, as the plant representative says at the end of the above dialogue, an inventory build-up would be possible only for made-to-stock articles (so-called “A-products”) and not for the more irregular project business that relied on made-to-order articles (so-called “L-products”). Again, this was not really satisfactory in the eyes of the sales coordinator who argued that competitors had classified the products in question in a different way and would therefore be able to win the customer orders:

[...] But we still know that some of the competitors have A-classified these [products], so that they were able to include them into their standard-business and we often have to fight for orders and lose in the short-term. From my point of view, we definitely have to work out a solution [...] also for the stocking levels of [L-types] and not only concentrating on the A-products, because this could be a possible mistake we could be making, from my point of view. (Sales coordinator, M-PLN-1).

It is evident from the above episode that sales coordinators and operations framed the problem of coordination in different ways. While sales coordinators were primarily concerned with having products readily available, the operations manager would point to the importance of keeping stock levels low. Accordingly, the meeting participants would see different courses of action as appropriate to address the problem of coordinating demand and supply. Concerns with hierarchical accountability render coordination difficult, because they complicate the forming of a common understanding that we identified as central to the coordination of behaviour. This is because any given course of action that benefits some actors may come at the expense of the interests of others.

While we could observe that concerns with hierarchical accountability indeed introduced some tension into the planning meetings, it was at the same time remarkable that, overall, still a rather harmonious and constructive atmosphere prevailed. Notwithstanding the different priorities that meeting participants expressed during the meetings, discussions ultimately did not end up in a deadlock but rather in accounts that all meeting participants were apparently able to “live with”. How was it possible then for managers to overcome their concerns with accountability and to coordinate their activities?

#### *Overcoming concerns with accountability*

Framing contests emerged when meeting participants enacted their hierarchical accountabilities and thereby produced competing “framings” of the situation. At the same time, we could observe how managers, from time to time, would try to “discursively mitigate” the tensions that competing priorities and perspectives brought about. By means of certain discursive strategies (Cornelissen, 2012), they apparently sought to enact a reality that made it easier for them to maintain a harmonious climate and to achieve common understanding.

More specifically, we observed that meeting participants engaged in active efforts to emphasize the *joint responsibility* for a successful planning process and to frame the task of coordination as being in their *shared interest*. Being aware of the conflicting priorities that existed between the sales and operations functions, the meeting participants tried to remind themselves that they were nevertheless sitting in the same boat so to speak. In one of the meetings, for example, the operations manager emphasized the importance of producing reliable numbers and clearly framed this in terms of a joint challenge:



On the one hand, it [i.e. planning] should help our customers and, on the other hand, it should help us to run our business with reasonably good stocks, with stocks as low as possible, which is always the goal of working economically but we also want to adhere to our delivery dates. And this will only be possible if both areas [sales and production] work closely together. Therefore, I think that the [planning] meeting is a very good platform for exchanging information. What *we should do now* is to learn *where we are off the mark* and *what information we need* to prepare better forecasts so that the plant can make a better use of it. (Operations manager, M-PLN-2, our emphasis)

Note how the operations manager emphasizes the shared interest in producing good forecasts. As seen in the last sentence of the quote, the use of the pronoun “we” would seem to suggest that the accountability to generate good numbers was not only with the sales people, but was in fact a joint challenge for the meeting participants. Referring to the meeting group as a “collective subject” (Quinn and Dutton, 2005, p. 42) has a symbolic value, as it reinforces a feeling of solidarity among the group. This, in turn, should motivate managers to find an agreement despite their different viewpoints. It was apparently also a reaction to the tensions that managers were experiencing when such solidarity was absent. Indeed, when we asked the operations manager in an interview about the rationale behind his above statement, he explained to us that it was critical in his eyes not to put too much blame on the sales people if the forecast quality was not yet as desired:

I said that on purpose because shortly before [today’s planning meeting], there was a rather fierce [...]. how can I say [...]. Well, there was an information session where [our plant manager] quite heavily attacked the quality of the forecasts. That was the background for my statement, to say that it does not help anyone if we just say that the forecasts are of bad quality because then they [sales people] stop preparing them at all. I think that all the involved people at the moment try hard to deliver as good as they can. Thus, I felt it was important to say once again that it [planning] is a learning process for all of us. (Operations Manager, I-51)

The two quotes above also illustrate a second discursive strategy that managers engaged in. Note how, at the end of both statements, the operations manager frames the task of producing reliable forecasts as a “learning process”. In so doing, he suggests that the concern with the current outcomes of this process is to be balanced with an interest in how the process would develop over time. As the operations manager put it in one of the meetings when commenting on the not-so-good quality of the forecasts:

But please, do not stop [preparing the forecasts] because we learn for next year. And that’s the key point. For me, the current year is not crucial, but in the next one it will be more challenging because then one [i.e. senior management] can say, “We know what happened in the previous year, so why do we still make mistakes?” You know what I’m saying? (M-PLN-2)

By emphasizing the *joint interest* in the newly designed planning process and by describing it as a *learning process*, managers discursively enacted a reality that downplayed the concerns that would at times emerge in the meetings. Despite the occasional complaint about what others did wrong, meeting participants nevertheless expressed sympathy for each other’s arguments and perspectives. In so doing, they were able to develop a shared understanding of the situation, according to which coordination was about “balancing competing interests”, rather than about enforcing one particular position. The discursive strategies used by the meeting participants reinforced certain

beliefs that made it easier for them to “mediate between their own actions and convictions and the articulated expectations of others” (Cornelissen, 2012, p. 127).

We suggest that a key facilitator behind these efforts to overcome their differences is to be found in the meeting arrangement itself. While the meetings provided a space for framing contests to emerge, they also created the possibility of better understanding each other’s situation and constraints. Increased interaction leads to visibility of, and increased *familiarity* with, each other’s perspectives and associated interests (typically shaped by the managers’ respective roles and accountabilities), and strengthens the relationship between people (Okhuysen and Bechky, 2009, p. 479). When employees learn to understand each other’s positions, they are more likely to develop respect for different perspectives. And:

[r]espect for the work of others encourages employees to value the contributions of others and to consider the impact of their actions on others, further reinforcing the inclination to act with respect to the overall work process (Hoffer Gittel, 2002, p. 1411).

Indeed, we suggest that it was by exchanging arguments in the meetings that the managers in our case firm could develop sympathy for each other’s position. They realized that, given the multiplicity of demands upon the organization, it was not a matter of being “right” or “wrong”, but of balancing different objectives and making compromises. This was particularly visible when the operations manager acknowledged that generating sales was a good thing for the business, even if it sometimes implied operational problems (see, for example, the operations manager’s statement in the above episode: “Yes and that’s a good thing. We earn [...] we live from it.”). Conversely, it was also “illuminating” for the sales coordinators to see that delivery problems were often inherently tied to bad forecast quality. The framing contests were thus not just *expressive* of competing understandings and interests; they were also *productive* in the sense of highlighting the different tensions that were to be balanced in the firm. This kind of “productive friction” (Chenhall *et al.*, 2013) that emerged in the meetings allowed managers to see the firm from different perspectives rather than just from their own functional one.

A second condition that facilitated managers’ discursive strategies relates to the nature or strength of their accountabilities. As Cornelissen (2012) points out, aligning with the perspectives and expectations of others is easier in cases when the person in question does not feel strongly committed to certain norms or objectives. In the case of PlanCo, meeting participants’ sensemaking was visibly influenced by their hierarchical accountabilities, but these were not so strong as to render compromises with the interests of others impossible. The operations manager clearly defended the plant’s interest of achieving high operational performance in terms of low inventory levels. Yet, he did not have to bear this “burden” all by himself. Indeed, when there was a particularly difficult decision concerning inventory policy to make, he would elevate the case to the plant manager and the supply chain manager for their judgement (Frow *et al.*, 2010). They would then decide whether the plant should, for instance, increase inventory of a particular raw material or product, despite internal rules suggesting otherwise. This is evident, for instance, in the above dialogue when the operations manager says that he will “talk to the plant management and to [the supply chain manager] to see whether we dare to at least pre-order the components for [these products]”. The coordination problem was, in that case, delegated upwards. The sales coordinators, in turn,

represented the interest of the sales function to have products available when needed. Yet, they were not sales people as such but rather “process managers” who looked after administrative tasks within their sales region. This arguably made it easier for them to “distance” themselves from too close an identification with the view of the sales reps and to acknowledge the position of the operations manager. Finally, we also need to acknowledge the influence of the BPI manager on the achievement of common understanding in the meetings. Representing neither the perspective of sales nor that of operations, he played a moderating role in the discussions between the two sides and promoted the need to balance different interests.

### Concluding discussion

The way in which sales and production managers interact in planning meetings provides insights into the possibilities and challenges that go along with these, and similar, lateral forms of control. Our particular interest in this paper has been with the mechanisms through which coordination in cross-functional planning meetings is achieved. We contribute to the literature on planning by providing a more micro-level analysis of coordination that adds detail to previous studies (Abernethy and Lillis, 1995; Bourmistrov and Kaarbøe, 2013; Henttu-Aho and Järvinen, 2013). Bourmistrov and Kaarbøe (2013) as well as Henttu-Aho and Järvinen (2013) stress that more dynamic forms of planning, like forecasting, trigger discussions, debates or negotiations but also enable functional managers to reach “realistic consensus” (Henttu-Aho and Järvinen, 2013, p. 772) about the future of the organization. Our in-depth analysis of “planning talk” adds to these studies by showing in detail *how* sales and operations managers use accounting and other types of information to develop a common understanding about the future that serves as a basis for coordinating their activities, and reach agreements on (non-)action.

We also contribute to the sensemaking literature in accounting (Boland, 1984; Bolland and Pondy, 1986; Englund *et al.*, 2013; Kraus and Strömsten, 2012; Tillmann and Goddard, 2008) by highlighting particular sensemaking mechanisms, such as “plausibilization” and “calculative reasoning”, that play an important role in these meetings. More specifically, three findings are particularly worth highlighting.

First, our analysis demonstrates that critical to the functioning of planning meetings as mechanisms of coordination is the development of *common understanding* among the meeting participants. In hierarchical forms of control, understanding is typically “imposed” in a top-down way, whereas lateral forms of control promote the bottom-up creation of a “jointly held conception of the work” (Okhuysen and Bechky, 2009, p. 489). Our analysis shows that the interactions during the meetings can be characterized as a process of collective sensemaking that builds upon different mechanisms. The interactions function as a medium for the transfer of information from one person to the other, thus reducing information asymmetries within the group. Furthermore, they allow for the emergence of new meanings and knowledge during the meeting itself. These two points confirm the observations of other authors (Preston, 1986; Roberts, 1991), who have highlighted the relevance of such processes of informing and sensemaking in lateral forms of coordination. In addition, however, we point to another characteristic of the sensemaking process, which is related to the condition of uncertainty in which the planning meetings take place. No matter how much knowledge may be exchanged and built during the meetings, there will always be some uncertainty

left that cannot be eliminated in this way. The managers in PlanCo seek to address this remaining uncertainty by engaging in a process of “plausibilization” (Weick, 1995). When they undertake efforts to render their expectations plausible, it is their social agreement that counts, and not the reference to some objective standard or fact. To render the numbers plausible means to have the group agree that there is sufficient confidence in the numbers to base decisions about future actions on them. We therefore suggest that the development of common understanding, as an important coordination mechanism in planning meetings, involves to an important extent the *collectivization of judgement*. From the perspective of the individual, reaching such a social agreement that the numbers are plausible is a way of creating comfort, in the sense that the responsibility for basing particular decisions on the numbers is shared within the group.

Second, our study indicates that planning meetings are rather time-consuming mechanisms of coordination. It is therefore likely that organizations will use such mechanisms selectively and address only some of their coordination needs in this way. Existing literature suggests that the use of lateral control systems is contingent on certain contextual factors like flexible manufacturing strategies or horizontal integration (Abernethy and Lillis, 1995; Chenhall, 2003, 2008), but this literature does not demonstrate *how*, exactly, organizational actors select the problems that enter such forms of control. Our micro-analysis, in contrast, allows us to observe how the operations manager, when making sense of the forecast numbers, applied a specific *filter mechanism* to select those product families where he perceived a particular need to ascertain common understanding. Given his lack of information about what was “behind” the forecast numbers, the operations manager relied on the availability of other numbers (historical sales, budget, order book, etc.) that were available to him in the form of an Excel sheet. This information allowed him to engage in “calculative reasoning”, i.e. to triangulate between the numbers so as to obtain signals of inconsistency or ambiguity (Weick, 1995). Calculative reasoning is a particular form of sensemaking. It can be considered a “number-to-number tactic” (Englund and Gerdin, 2015) that allows for the identification of a need for further (collective) sensemaking. This observation extends previous research on accounting and sensemaking (Heidmann *et al.*, 2008), for it shows how a filter mechanism can help focus meetings on those issues that are considered particularly important to discuss. Calculative reasoning is particularly helpful for actors who work at a distance from the local context in which the numbers are generated and therefore lack more detailed information on what these numbers reflect. The Excel sheet, in which the various numbers were compiled in PlanCo, hereby works as a “semi-confusing information system” (Hedberg and Jönsson, 1978) that managers can use to create ambiguity and thus to point to those areas where they perceive a need to ascertain common understanding across the departments. Our findings thus suggest that more information can indeed help address uncertainty, but not necessarily in the obvious way of simply filling an information gap. Rather, more abstract information (in the form of the numbers provided in the Excel sheet) first creates ambiguity, which then makes the operations manager ask for a different type of information (e.g. operational information) during the meeting. And this contextual information about the forecast numbers then serves to establish the numbers as plausible. Our observation that accounting can be used to *create ambiguity* which, in turn, triggers collective sensemaking adds to previous studies arguing that accounting numbers typically reduce ambiguity due to their standardized nature (Kraus and Strömsten, 2012). We

show that in a setting in which actors can draw on multiple accounting numbers that refer to the same “object” (e.g. future demand), accounting may actually heighten ambiguity and, thus, increase the need for sensemaking.

Third, we show how the process of coordination in planning meetings, or similar lateral forms of control, can be influenced by hierarchical accountabilities. Concerns with hierarchical accountability complicate the process of reaching common understanding among managers, regarding how to coordinate their actions. They can lead to a framing contest (Kaplan, 2008) in which different actors frame the respective situation differently due to their hierarchical and role-specific accountabilities. Cross-functional planning meetings produce concurrent visibility about the perspectives of different functions within the organization, thus making sales and operations managers’ evaluation principles transparent to each other (Chenhall *et al.*, 2013). In so doing, the meetings subject managers to a “socializing” form of accountability (Roberts, 1991), i.e. they confront them with the expectations of their peers, to which the managers have to react in one way or the other to move on. As these expectations will not always be in line with managers’ understanding of their own hierarchical accountabilities, tensions are likely to emerge. We demonstrate how such tensions complicated the process of reaching a common understanding between sales and operations managers in PlanCo. At the same time, the meeting arrangement provides a forum for containing such tensions. By means of certain discursive strategies (Cornelissen, 2012), managers sought to strengthen each other’s commitment to the “common cause” and to balance competing objectives. This was possible because actors felt able to distance themselves from too close a concern with the hierarchical accountabilities that framed their individual sensemaking. It was also facilitated by the increased familiarity with each other’s perspectives (Okhuysen, 2001; Okhuysen and Bechky, 2009) that the repeated interactions in the meetings created. The promotion of familiarity among managers across departmental boundaries can indeed be seen as a key feature of cross-functional planning meetings or other types of lateral control. While hierarchical controls tend to promote the separation of distinct areas of responsibility, lateral control systems offer a way to counteract such tendencies of departmentalization and “silo thinking”. They oblige managers to engage with each other’s perspectives and to enact a joint responsibility for those activities that need to be managed across functional boundaries.

It is important to acknowledge that the way in which coordination was achieved in the planning meetings in PlanCo is not necessarily indicative of how other organizations manage the coordination between their sales and production activities. Lateral forms of control may be more or less prominent in organizations, and the solutions for how to coordinate will certainly be influenced by the particular “infrastructure” in place (e.g. the structure of the organization or existing technologies). For instance, in our case, sales and production managers were able to draw upon an integrated set of information as represented in the Excel sheet. This constituted a common point of departure that provided some structure to their collective sensemaking efforts during the meetings. In other cases, such a common point of departure may be missing, and actors may therefore have to invest even more effort during the meetings to establish a common understanding. Similarly, different organizations may apply different filter mechanisms to decide what (not) to discuss in planning meetings. Further research could examine the

functioning of different filter mechanisms and how these influence planning meetings and similar interactions.

Another question that future studies may address is how organizations change their approach to planning over time. For instance, organizations may decide to decrease (or increase) the planning horizon, to dedicate more (or less) time for planning, to increase (or decrease) the level of detail of their plans or to include more (or less) different actors in the planning activities. It would be worthwhile in our view to examine how and why such changes to planning systems come about and what consequences they have for an organization. Such consequences can be studied, for instance, by considering how different alternatives to planning influence actors' sensemaking about the future, how actors deal with uncertainty and how they eventually coordinate their activities.

## References

- Abernethy, M.A. and Lillis, A.M. (1995), "The impact of manufacturing flexibility on management control system design", *Accounting, Organizations and Society*, Vol. 20 No. 4, pp. 241-258.
- Ahrens, T. (1996), "Styles of accountability", *Accounting, Organizations & Society*, Vol. 21 Nos 2/3, pp. 139-173.
- Ahrens, T. and Chapman, C.S. (2006), "Doing qualitative field research in management accounting: positioning data to contribute to theory", *Accounting, Organizations and Society*, Vol. 31 No. 8, pp. 819-841.
- Balogun, J. and Johnson, G. (2004), "Organizational restructuring and middle manager sensemaking", *Academy of Management Journal*, Vol. 47 No. 4, pp. 523-549.
- Berger, P. and Luckmann, T. (1967), *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*, Anchor Books, Garden City, New York, NY.
- Boland, R.J. Jr. (1984), "Sensemaking of accounting data as a technique of organizational diagnosis", *Management Science*, Vol. 30 No. 7, pp. 868-882.
- Boland, R.J. Jr. and Pondy, L.R. (1983), "Accounting in organizations: a union of natural and rational perspectives", *Accounting, Organizations and Society*, Vol. 8 Nos 2/3, pp. 223-234.
- Boland, R.J. Jr. and Pondy, L.R. (1986), "The micro dynamics of a budget-cutting process: modes, models and structure", *Accounting, Organizations and Society*, Vol. 11 Nos 4/5, pp. 403-422.
- Bourmistrov, A. and Kaarbøe, K. (2013), "From comfort to stretch zones: a field study of two multinational companies applying "beyond budgeting" ideas", *Management Accounting Research*, Vol. 24 No. 3.
- Chapman, C.S. (1998), "Accountants in organisational networks", *Accounting, Organizations & Society*, Vol. 23 No. 8, pp. 737-766.
- Chenhall, R.H. (2003), "Management control systems design within its organizational context: findings from contingency-based research and directions for the future", *Accounting, Organizations and Society*, Vol. 28 Nos 2/3, pp. 127-168.
- Chenhall, R.H. (2008), "Accounting for the horizontal organization: a review essay", *Accounting, Organizations & Society*, Vol. 33 Nos 4/5, pp. 517-550.
- Chenhall, R.H., Hall, M. and Smith, D. (2013), "Performance measurement, modes of evaluation and the development of compromising accounts", *Accounting, Organizations and Society*, Vol. 38 No. 4, pp. 268-287.
- Cornelissen, J.P. (2012), "Sensemaking under pressure: the influence of professional roles and social accountability on the creation of sense", *Organization Science*, Vol. 23 No. 1, pp. 118-137.

- Cyert, R.M. and March, J.G. (1963), *A Behavioral Theory of the Firm*, Wiley, New York, NY.
- Drazin, R., Glynn, M.A. and Kazanjian, R.K. (1999), "Multilevel theorizing about creativity in organizations: a sensemaking perspective", *Academy of Management Review*, Vol. 24 No. 2, pp. 286-307.
- Englund, H. and Gerdin, J. (2015), "Developing enabling performance measurement systems: on the interplay between numbers and operational knowledge", *European Accounting Review*, Vol. 24 No. 2, pp. 277-303.
- Englund, H., Gerdin, J. and Abrahamsson, G. (2013), "Accounting ambiguity and structural change", *Accounting, Auditing & Accountability Journal*, Vol. 26 No. 3, pp. 423-448.
- Fayol, H. (1916), *Administration industrielle et générale*, Dunot, Paris.
- Feldman, M. (1989), *Order without Design*, Stanford University Press, Stanford, CA.
- Flyvbjerg, B. (2001), *Making Social Science Matter: Why Social Inquiry Fails and How It can Succeed Again*, Cambridge University Press, Cambridge.
- Frow, N., Marginson, D. and Ogden, S. (2010), "Continuous" budgeting: reconciling budget flexibility with budgetary control", *Accounting, Organizations and Society*, Vol. 35 No. 4, pp. 444-461.
- Giddens, A. (1984), *The Constitution of Society: Outline of the Theory of Structuration*, Polity Press, Cambridge.
- Hall, M. (2010), "Accounting information and managerial work", *Accounting, Organizations and Society*, Vol. 35 No. 3, pp. 301-315.
- Hedberg, B. and Jönsson, S. (1978), "Designing semi-confusing information systems for organizations in changing environments", *Accounting, Organizations and Society*, Vol. 3 No. 1, pp. 47-64.
- Heidmann, M., Schäffer, U. and Strahringer, S. (2008), "Exploring the role of management accounting systems in strategic sensemaking", *Information Systems Management*, Vol. 25 No. 3, pp. 244-257.
- Henttu-Aho, T. and Järvinen, J. (2013), "A field study of the emerging practice of beyond budgeting in industrial companies: an institutional perspective", *European Accounting Review*, Vol. 22 No. 4, pp. 765-785.
- Hoffer Gittel, J. (2002), "Coordinating mechanisms in care provider groups: relational coordination as a mediator and input uncertainty as a moderator of performance effects", *Management Science*, Vol. 48 No. 11, pp. 1408-1426.
- Hope, J. and Fraser, R. (2003), "Who needs budgets?", *Harvard Business Review*, Vol. 81 No. 2, pp. 108-115.
- Hopwood, A.G. (1972), "An empirical study of the role of accounting data in performance evaluation", *Journal of Accounting Research*, Vol. 10 No. 3, pp. 156-182.
- Hopwood, A.G. (1983), "On trying to study accounting in the contexts in which it operates", *Accounting, Organizations and Society*, Vol. 8 Nos 2/3, pp. 287-305.
- Jönsson, S. (1987), "Frame shifting, sensemaking and accounting", *Scandinavian Journal of Management*, Vol. 3 No. 1, pp. 255-298.
- Kaplan, S. (2008), "Framing contests: strategy making under uncertainty", *Organization Science*, Vol. 19 No. 5, pp. 729-752.
- Kihn, L.A. and Eeva-Mari, I. (2015), "Approaches to validation and evaluation in qualitative studies of management accounting", *Qualitative Research in Accounting & Management*, Vol. 12 No. 3, pp. 230-255.

- Koontz, H. and O'donnell, C. (1955), *Principles of Management: An Analysis of Managerial Functions*, McGraw-Hill, New York, NY.
- Kraus, K. and Strömsten, T. (2012), "Going public: the role of accounting and shareholder value in making sense of an IPO", *Management Accounting Research*, Vol. 23 No. 3, pp. 186-201.
- Louis, M. (1980), "Surprise and sensemaking: what newcomers experience in entering unfamiliar organizational settings", *Administrative Science Quarterly*, Vol. 25 No. 2, pp. 226-251.
- Lukka, K. and Modell, S. (2010), "Validation in interpretive management accounting research", *Accounting, Organizations and Society*, Vol. 35 No. 4, pp. 462-477.
- Maitlis, S. (2005), "The social processes of organizational sensemaking", *Academy of Management Journal*, Vol. 48 No. 1, pp. 21-49.
- Merchant, K.A. and Manzoni, J.F. (1989), "The achievability of budget targets in profit centers: a field study", *Accounting Review*, Vol. 64 No. 3, pp. 539-558.
- Murphy, K.J. (2000), "Performance standards in incentive contracts", *Journal of Accounting and Economics*, Vol. 30 No. 3, pp. 245-278.
- Okhuysen, G.A. (2001), "Structuring change: familiarity and formal interventions in problem-solving groups", *Academy of Management Journal*, Vol. 44 No. 4, pp. 794-808.
- Okhuysen, G.A. and Bechky, B.A. (2009), "Coordination in organizations: an integrative perspective", *The Academy of Management Annals*, Vol. 3 No. 1, pp. 463-502.
- Oliva, R. and Watson, N. (2011), "Cross-functional alignment in supply chain planning: a case study of sales and operations planning", *Journal of Operations Management*, Vol. 29 No. 5, pp. 434-448.
- Preston, A. (1986), "Interactions and arrangements in the process of informing", *Accounting, Organizations and Society*, Vol. 11 No. 6, pp. 521-540.
- Quinn, R.W. and Dutton, J.E. (2005), "Coordination as energy-in-conversation", *Academy of Management Review*, Vol. 30 No. 1, pp. 36-57.
- Roberts, J. (1991), "The possibilities of accountability", *Accounting, Organizations and Society*, Vol. 16 No. 4, pp. 355-368.
- Robson, K. (1992), "Accounting numbers as 'inscription': action at a distance and the development of accounting", *Accounting, Organizations & Society*, Vol. 17 No. 7, pp. 685-708.
- Simon, H.A. (1947), *Administrative Behavior*, Macmillan, New York, NY.
- Taylor, F.W. (1911), *Shop Management*, Harper & Brothers, New York, NY.
- Tillmann, K. and Goddard, A. (2008), "Strategic management accounting and sensemaking in a multinational company", *Management Accounting Research*, Vol. 19 No. 1, pp. 80-102.
- van der Meer-Kooistra, J. and Scapens, R.W. (2008), "The governance of lateral relations between and within organisations", *Management Accounting Research*, Vol. 19 No. 4, pp. 365-384.
- Vollmer, H. (2007), "How to do more with numbers: elementary stakes, framing, keying, and the three-dimensional character of numerical signs", *Accounting, Organizations and Society*, Vol. 32 No. 6, pp. 577-600.
- Weick, K.E. (1979), *The Social Psychology of Organizing*, 2nd ed., Addison-Wesley, Reading.
- Weick, K.E. (1995), *Sensemaking in Organizations*, Sage, Thousand Oaks.



	Date	Interviewee	Code
Interviews (59)	8 May 2008	Holger, Chief management accountant (production site)	I-1
	27 June 2008	Werner, Project manager (Six Sigma quality project team)	I-2
	2 July 2008	Bernhard, Management accountant	I-3
	2 July 2008	Wilhelm, Service and coordination manager	I-4
	23 July 2008	Hans, Project manager (OTD project team)	I-5
	23 July 2008	Emil, Project manager (CE project team)	I-6
	23 July 2008	Werner, Project manager (Six Sigma quality project team)	I-7
	24 July 2008	Hannes, Human resources manager	I-8
	24 July 2008	Mirko, Team member (CE project team)	I-9
	29 July 2008	Holger, Chief management accountant	I-10
	29 September 2008	Hans, Project manager (OTD project team)	I-11
	25 November 2008	Tobias, Team member (Six Sigma quality team)	I-12
	25 November 2008	Werner, Project manager (Six Sigma quality team)	I-13
	25 November 2008	Jutta, Team member (CE project team)	I-14
	26 November 2008	Herbert, Team member (OTD project team)	I-15
	26 November 2008	Mirko, Team member (CE project team)	I-16
	26 November 2008	Holger, Chief management accountant	I-17
	26 November 2008	Emil, Project manager (CE project team)	I-18
	27 November 2008	Daniel, Team member (OTD project team)	I-19
	27 November 2008	Hannes, Human resources manager	I-20
	26 February 2009	Holger, Chief management accountant	I-21
	26 February 2009	Kurt, Lean consultant	I-22
	26 February 2009	Gabriel, Foreman at the production site	I-23
	26 February 2009	Hans, Project manager (OTD project team)	I-24
	7 April 2009	Hannes (HR) and Wilhelm (Service and coordination)	I-25
	27 April 2009	Wilhelm, Service and coordination manager	I-26
	27 April 2009	Joseph, Production line manager	I-27
	27 April 2009	Emil, Project manager (CE project team)	I-28
	21 July 2009	Hannes, Human resources manager	I-29
	21 July 2009	Bernhard, Management accountant	I-30
	22 July 2009	Emil, Project manager (CE project team)	I-31
	18 August 2009	Christian, Lean Six Sigma manager	I-32

(continued)

**Table AI.**  
Interviews conducted and meetings attended at PlanCo from May 2008 to October 2011

Date	Interviewee	Code
18 August 2009	Thorsten, Supply chain manager	I-33
17 November 2009	Wilhelm, Service and coordination manager	I-34
17 November 2009	Herbert, Team member (OTD project team)	I-35
18 November 2009	Silvia, Lean Six Sigma manager	I-36
18 November 2009	Paul, Quality manager	I-37
2 March 2010	Wilhelm, Service and coordination manager	I-38
2 March 2010	Emil, Project manager (CE project team)	I-39
3 March 2010	Herbert, Team member (OTD project team)	I-40
3 March 2010	Thorsten, Supply chain manager	I-41
3 March 2010	Georg, Lean Six Sigma manager	I-42
19 April 2010	Dominik, Business Process Improvement Manager	I-43
19 April 2010	Klemens, Manager at one of LeanOrg's suppliers	I-44
20 April 2010	Wilhelm, Service and coordination manager	I-45
16 July 2010	Wilhelm, Service and coordination manager	I-46
16 July 2010	Richard, Human resources manager	I-47
16 July 2010	Michael, Quality manager	I-48
16 July 2010	Markus, Controller	I-49
28 July 2010	Silvia, Lean Six Sigma manager	I-50
17 August 2010	Herbert, Team member (OTD project team)	I-51
17 August 2010	Rafael, Plant manager	I-52
20 October 2010	Silvia, Lean Six Sigma manager	I-53
20 October 2010	Wilhelm, Service and coordination manager	I-54
26 October 2010	Jakob, Sales Coordinator for Switzerland	I-55
15 November 2010	Boris, Sales Coordinator for Benelux	I-56
23 August 2011	Herbert, Team member (OTD project team)	I-57
23 August 2011	Wilhelm, Service and coordination manager	I-58
21 October 2011	Herbert (OTD) and Pia (Forecasting assistant)	I-59

*(continued)***Table AI.**

GRAM  
13,1

126

Table AI.

	Date	Type of meeting	Code
Meetings (14)	3 June 2008	Quality meeting	M-QU-1
	27 June 2008	Quality meeting	M-QU-2
	18 July 2008	Cycle efficiency meeting	M-CE-1
	29 July 2008	OTD meeting	M-OTD-1
	17 September 2008	Cycle efficiency meeting	M-CE-2
	4 December 2008	Cycle efficiency meeting	M-CE-3
	26 February 2009	OTD meeting	M-OTD-2
	22 July 2009	Meeting on production layout	M-PROD-1
	22 July 2009	Production review meeting	M-PROD-2
	17 February 2009	Meeting on production layout	M-PROD-3
	19 April 2010	Planning meeting	M-PLN-1
	16 July 2010	Planning meeting	M-PLN-2
	17 August 2010	Planning meeting	M-PLN-3
	16 September 2010	Planning meeting	M-PLN-4

**Corresponding author**

Martin Messner can be contacted at: [martin.messner@uibk.ac.at](mailto:martin.messner@uibk.ac.at)

For instructions on how to order reprints of this article, please visit our website:

[www.emeraldgroupublishing.com/licensing/reprints.htm](http://www.emeraldgroupublishing.com/licensing/reprints.htm)

Or contact us for further details: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.