Using projective techniques to further understanding

of the RAPM-PEU relationship

(Reliance on Accounting Performance Measures and Perceived Environmental Uncertainty):

evidence from the experience of marketing & sales managers

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Abstract

In an increasingly uncertain context, budgeting faces at least two categories of concerns: how should realistic objectives be set in a poorly predictable context? How should a fair year-end evaluation be performed when uncertainty has affected the results and their controllability?

Since Hopwood's (1972) paper, performance evaluative styles have provided a rich vein for empirical behavioral studies in control, largely based on contingency approaches, and the Perceived Environmental Uncertainty (PEU) has been specifically examined in many empirical studies. However, two decades of literature on the RAPM-PEU relationship have produced results that are at best inconclusive.

In our view, there is a need for better understanding of the constructs commonly used in RAPM research. To meet this need, we used a field-based study and projective techniques to interview fourteen senior marketing and sales managers in a variety of industries. The interviews were designed to capture the managers' perceptions relating to RAPM, and to uncertainty.

Our results highlight an important practical and theoretical distinction between *actionable* and *non-actionable* sources of PEU, which is based on a manager's ability to improve the predictability of change, and/or to be able to react to changes in the environment with an additional effort. When PEU is high and perceived as non-actionable, the paper examines what kind of social and organizational adjustments take place that can avoid the potential negative behavioral consequences of RAPM. The results emphasize that budgeting and performance evaluation are a multiple-year game, where trust and knowledge of social rules build up over the years, and learning takes place – a picture left out of traditional RAPM literature.

Keywords: budgeting – RAPM – uncertainty – projective techniques – behavioral accounting – marketing and sales managers.

“I don’t have trouble sleeping at night... Sometimes I wake up early because of the kids and then I can’t get back to sleep because I start thinking. OK, sometimes I think about my budget. But I don’t take pills. Maybe some people do, I don’t. Maybe my competitors do (laughs). I achieved my objectives four years in a row... I did it. But it’s not just plain sailing. You have to make it happen.” (*Senior marketing & sales manager, Pharmaceuticals*)

For many companies, budgets are a key control instrument from a behavioral perspective. Traditional budgeting systems rely on goal-setting and performance evaluation based on accounting measures. The goal-setting theory (Locke, 1968; Locke & Latham, 1990) has provided arguments for the appropriateness of reliance on accounting performance measures (RAPM). This paper explores the “real scene” of RAPM when uncertainty increases. In an increasingly uncertain context, budgeting faces at least two categories of questions: how should realistic objectives be set in a poorly predictable context? How should a fair year-end evaluation be performed when uncertainty has affected the results and their controllability? Examination of these questions has recently subjected budgeting to considerable criticism in the managerial literature (Hope & Fraser, 2000, 2003(a), 2003(b); Jensen, 2003), but only a very small proportion of companies has in practice gone “beyond budgeting”. Given this context, our paper examines the following set of questions: where budgeting is not abandoned, how is RAPM actually implemented in high-uncertainty situations? What kind of social and organizational adjustments take place that can avoid the potential negative behavioral consequences of budgeting when managers’ perceived environmental uncertainty (PEU) is high?

Although a broad stream of literature, generally known as RAPM literature, has discussed the roles and use of budgets in relation to performance evaluation over the past thirty years, since Hopwood’s milestone paper (Hopwood, 1972), none of this behavioral empirical literature has yet provided conclusive answers to the above questions on budgeting and RAPM in high PEU contexts. More than two decades of RAPM literature have produced, at best, mixed results. The state of this literature is paradoxical. RAPM is one of the few research avenues in managerial accounting and control that can boast a “critical mass of empirical work” (Brownell & Dunk, 1991:703), but it is also criticized as “an example of an area of unsuccessful replications” (Lindsay & Ehrenberg, 1993:224) which “has yet to yield a cohesive body of knowledge” (Young, 1996:55). More specifically, studies on the effects of uncertainty have produced conflicting results. Some papers have concluded that uncertainty makes RAPM more difficult; others have emphasized that uncertainty makes high budget pressure dysfunctional; yet others have highlighted that higher uncertainty causes higher RAPM and greater budget emphasis.

Among the reasons for such conflicting results regarding the RAPM-PEU relationship, some authors have emphasized the shortcomings of the theories and concepts used, and certain methodological caveats. The lack of theory development implies the existence of a construct-validity issue: specifically, under-specification of the RAPM and uncertainty concepts. While uncertainty is a core concept in the organizational contingency literature (Thomson, 1967; Galbraith, 1973), it remains elusively and broadly defined in the RAPM literature.

Our study seeks to contribute to this academic debate by gaining some insights into the concepts, enriching the theory by fine-tuning certain existing constructs (RAPM, budget emphasis, budget participation, PEU) and furthering understanding of the complex mutual interrelationships – rather than simple, or even complicated, cause-and-effect linkages – between RAPM and PEU.

Given our need for better understanding of certain constructs commonly used in RAPM research, we conducted semi-structured interviews using projective techniques with 14 senior sales and marketing managers from a variety of industries. Evocative, carefully designed visuals stimulate people – here managers – to talk and express their feelings in an open manner on pre-determined constructs and topics. The research method relies on constructs grounded in a broad base of existing literature, but uses semi-structured, largely open-ended, interviews. To that extent, our paper explores a different methodological route from traditional empirical RAPM approaches. Although large sample studies are well-designed to capture and establish what may be robust contingency relationships, they are of little help when it comes to specifying the concepts. We believe that RAPM research can benefit from the "explanatory power" (Scapens, 1990) of more qualitative, field-based studies, a route suggested by Chapman (1997). Our paper builds on "loose" contingency relationships between RAPM and PEU, and seeks to contribute to theory development through the use of projective techniques.

Our results indicate that RAPM is an ongoing process taking place in a social context, rather than a once-a-year evaluation time involving just two people – a manager and his/her superior. This paper identifies various PEU dimensions that influence managers' perception of RAPM. For instance, it highlights an important practical and theoretical distinction between actionable vs. non-actionable sources of PEU.

The results also shed light on how the managers deal with RAPM in high PEU contexts. They display several types of social adjustments such as risk- and effort-sharing, closer and more intense relationships up and down the lines (managers with their teams and superiors), taking a more detached view of the formal evaluation system, or building trust with the hierarchy. The results emphasize that budgeting and performance evaluation are a multiple-year game where trust and the knowledge of social rules are built up over the years and a certain amount of learning takes place – a picture generally left out of the traditional RAPM literature. Trust and reputation may be important moderators, and they develop with increased communication along the line.

The remainder of the paper is organized as follows. Part 1. discusses the conceptual framework and RAPM-PEU theoretical background to our study, concluding with presentation of our research objectives. Part 2. summarizes the research method chosen to best answer our questions, presenting the arguments in favor of using projective techniques imported from marketing literature, where they have long been in use, and describes how the interviews were conducted. Part 3. reports our field-based data, and subsequently discusses certain existing constructs in the light of our results, together with a selection of variables emerging from our study, thus offering new perspectives on the relationships between budgets and PEU.

1. Background literature and research focus

RAPM studies have tested the negative behavioral effects of a high RAPM in high PEU situations. They have hypothesized that a high PEU is likely to lead to lower RAPM. However, the results of these studies remain conflicting and non-conclusive (1.1). This part of our paper explains how the current state of the literature spurred us to go beyond the conceptual elusiveness (1.2) and narrow focus (1.3) of some current RAPM and PEU constructs. Our purpose, both theoretically and empirically, is to improve understanding of how RAPM changes as PEU increases, so as to enrich the traditional constructs (1.4).

1.1. RAPM and PEU: conflicting results

Uncertainty was one of the earliest and most prominent variables examined in the early contingency research of the 1960s (Burns & Stalker, 1961; Woodward, 1965; Lawrence & Lorsch, 1967; Thompson, 1967; Perrow, 1967). Many RAPM studies focused on the effects of a high PEU. Originally, PEU was introduced as a moderating variable in the contingency framework of RAPM (Gordon & Miller, 1976): a high RAPM is supposed to improve performance when PEU is low, but the behavioral dysfunctional effects of RAPM are supposed to increase with a higher PEU.

Later, empirical RAPM studies generated conflicting results, largely because different studies made different uses of the PEU construct. One group of studies focused on the *effects of uncertainty on the use of Accounting Performance Measures.* Among the latter, some papers confirmed a negative relationship between environmental uncertainty and RAPM, observing greater use of subjective evaluation and non-accounting measures when environmental uncertainty was higher (Govindarajan, 1984; Govindarajan & Gupta, 1985). In contrast, other papers have shown a positive relationship between high uncertainty and the use of accounting performance measures, for instance between PEU and both budgetary evaluation and required explanation of variances (Ezzamel, 1990)[i].

A different group of studies has emphasized the *dysfunctional behavioral effects of using RAPM under conditions of uncertainty*. RAPM appears to lead to job-related tension when task uncertainty is high (Hirst, 1981); dysfunctional behaviors like myopia (short-termism) or data manipulation (Merchant, 1990) and slack creation (Merchant, 1985; Van Der Stede, 2000) are found to occur when budget pressure is kept at a high level and environmental uncertainty increases. However, a third group of studies, examining *the effects on performance of using RAPM under uncertainty* vary in their conclusions and do not always corroborate such findings. While some confirm that uncertainty negatively affects the relationship between RAPM and managerial performance (Brownell, 1987; Govindarajan, 1988), others fail to prove that uncertainty affects this relationship (Merchant, 1984; Brownell[ii], 1985).

In sum, although many studies conclude that uncertainty makes RAPM more difficult and increases the risk of associated dysfunctional effects, conclusions vary, largely due to different empirical uses of the PEU variable. The elusiveness of the constructs (1.2) and a narrow-focused approach to RAPM (1.3) can additionally help explain the situation of the literature.

1.2. Conceptual elusiveness

The current vast number of non-conclusive empirical RAPM-PEU studies may result from under-specification of the RAPM and PEU constructs themselves. RAPM has been defined in many different ways, and operationalized in many different variables, changing over time from one study to the next in the absence of proper replications. For PEU, there is more of a consensus in the studies over how to define and measure it, but they have not looked further into other aspects, for instance how different kinds of PEU might affect the RAPM (Hartmann, 1998).

Confusion has primarily arisen in relation to such core concepts as evaluative styles, budget emphasis, budgeting styles and RAPM. Based on his study on cost center managers, Hopwood (1972) in his seminal paper defined evaluative styles as "the extent and manner in which budgetary data are used in performance evaluation" and identified the budget-constrained style, as opposed to the profit-conscious and non-accounting styles. Subsequently, "the reliance on accounting information" construct was introduced (Brownell & Hirst, 1986) and "RAPM" (Reliance on Accounting Performance Measures) defined (Harrison, 1993):

> "[RAPM is] the extent to which superiors rely on, and emphasize those performance criteria which are quantified in accounting & financial terms, and which are pre-specified as budget targets." (Harrison 1993:319)

Part of the theoretical difficulties in the literature lay in the under-clarification of the concepts that subsequent authors went on to address. For instance, a better distinction between the use of accounting information *per se,* and the use of preset targets, has proved fruitful (Hartmann, 1998) and could be developed. Instead, the understanding of "RAPM" ranges from the narrow concept of budgets used in a rigid manner to simply the dominant use of financial criteria in performance evaluation. Most papers use the terms "evaluative styles" and "budgetary controls" (Noeverman & Koene, 2003) in a confusing way. Conceptually, "evaluative styles" is an overall concept, comprising accounting evaluative styles - and the reliance on accounting performance measures (RAPM), "its most common derivative" (Otley & Fakiolas, 2000:497) – but also non-accounting styles, relying either on quantitative non-accounting or qualitative performance criteria. The concern with evaluative styles relates to **how much (extent) budgetary data is used** in performance evaluation versus other categories of data, and investigates the nature of the performance criteria used – categorized or along a continuum. In contrast, within examinations of the accounting evaluative style, a specific focus on budgets and budgetary controls has led researchers to study different budgeting styles. The concern is then **how (manner) the budget is used** in relation to performance evaluation: it can be applied in a flexible or a rigid manner – again, with some kind of categorization or along a continuum. Budgeting styles are for instance related to the level of difficulty of the targets, generally referred to as budget tightness (BT); another distinct dimension is the nature of the incentive system and the level of reward (punishment) associated with the (non)achievement of targets, a more "subjective" dimension of budget emphasis (BE). As different studies have addressed different issues under the same RAPM label, the issue now is: from a conceptual point of view, what exactly is RAPM?

In addition to these differences, authors have taken varying approaches to data collection and survey items, using a range of tools and scales. Classifications of the variety of concepts and variables used in empirical studies since Hopwood's study have been proposed (Otley & Fakiolas, 2000; Vagneur & Peiperl, 2000) and this theoretical and methodological variety – not to say confusion - has also been designated as a major limitation on meaningful replications.

PEU also needs further conceptual examination. Many authors would agree on defining PEU as an information deficit (Galbraith, 1973), a definition suggested by Chapman (1997):

> "Uncertainty is defined as the difference between the amount of information required to perform the task and the amount of information already possessed by the organization. Thus the amount of task uncertainty is a result of a specific task and a specific organization." (Galbraith, 1973:5)

More specifically, RAPM studies have operationalized PEU as the lack of predictability of certain factors, such as competition, changes in demand, technology, and so forth. However, the managers may perceive more than one kind of uncertainty (Hartmann, 1998), and the RAPM literature has not considered the effects of such different sources of uncertainty on RAPM:

> "RAPM research should be challenged by finding out whether the appropriateness of RAPM is differently affected by different kinds of uncertainty. Typically, the arguments supporting uncertainty-related expectations have not discriminated between types and sources of uncertainty." (Hartmann, 2000:476)

As a consequence, they provide conflicting results and leave the effects of PEU on RAPM poorly understood.

In sum, both PEU and RAPM deserve further examination so as to gain a better understanding of these concepts and their relationship.

1.3. Broadening the scope

Beyond its conceptual elusiveness, a second issue to be taken up with much of the RAPM literature is its narrow focus. In contrast to Hopwood's original broader approach of evaluative styles, most empirical RAPM studies have focused on and studied the one-to-one relationship between a manager and his/her hierarchy at two specific points in time: first, they have looked at the perceived level of difficulty of the targets at goal-setting time; later, at the end of the year, they have primarily examined the effects of not achieving the targets on compensation or – in rare cases – on short-term career advancement. Our study sets out to give greater consideration to the "organizational thickness". "Real-life managers" are not in the abstract setting of a one-to-one relationship with their superior, but belong to a social scene made up of their own teams, different managers on higher hierarchical levels and ultimately, a CEO and shareholders.

This paper also seeks to cast light on the nature of inter-hierarchical relationships in a budget setting. Budgetary participation has been widely studied in the RAPM literature, and defined as the possibility for managers to influence their budget targets at target-setting time. Some RAPM studies have tested whether, with higher budgetary participation, the dysfunctional effects of RAPM decrease and managers' performance under high RAPM increases (Brownell, 1982). Subsequent studies (Brownell & Hirst, 1986; Dunk, 1989; Brownell & Dunk, 1991; Dunk, 1993) have focused on the three-way relationships between RAPM, PEU and budgetary participation and once again provided conflicting results. This paper prefers to examine budgetary participation more broadly in its context, taking into account the multiple interactions between a manager, his/her hierarchy and his/her team.

1.4. Fine-tuning the constructs and going deeper into the "uncertainty paradox"

The current state of the RAPM literature justifies the need to fine-tune certain constructs and/or bring out "new" variables to help explain the conflicting previous results. The "uncertainty paradox" (Hartmann, 2000) has been put forward as an explanation for the RAPM literature's mixed results, arguing that there is a crucial conflict between the *need* for and *desirability* of control, enhanced by the PEU, and the *possibility* of control, related to *controllability*, which deteriorates as uncertainty increases. However, the uncertainty paradox does not dig into <u>what is going to occur</u> in such situations. The "incompleteness of accounting" as uncertainty increases (Chapman, 1997:202), which points to the need for operational measures for performance evaluation in high PEU contexts, lends additional force to the argument that RAPM is questionable in high uncertainty contexts. Though the "uncertainty paradox" and "accounting incompleteness" offer a meaningful framework to understand the current state of the RAPM–PEU literature, they do not predict how RAPM will evolve as PEU increases.

This paper seeks to go beyond the paradox and cast some light on the nature of uncertainty and the perception of the limits of "reasonable" uncertainty by managers. More specifically, it helps to answer the following sets of managerial and theoretical questions:

- How do managers characterize high PEU situations? What makes managers perceive uncertainty and drives changes in the way RAPM is implemented and experienced?
- Do organizations and managers still use RAPM in high uncertainty situations, and how? If so, how do they adjust the process in order to avoid dysfunctional effects? If not, what substitutes are used for control purposes?

The first set of questions asks what makes a manager perceive high environmental uncertainty and how this perception affects his/her attitude towards RAPM. The purpose is to identify different forms of PEU that would make the relevance of RAPM vary. In going deeper into the uncertainty concept, this paper sets out to achieve a better understanding of the mechanism underlying the uncertainty paradox. The second set asks whether RAPM is still relevant in high PEU situations and how RAPM adjusts in such circumstances. RAPM suggests that managerial performance evaluation should be based on managers achieving their budgetary objectives; in high PEU situations, what are the new criteria for performance evaluation alongside or instead of RAPM?

2. Research method: the use of projective techniques

2.1. A field-based, construct-driven study

The objectives of the study were to clarify what makes operational managers "*feel*" environmental uncertainty, what environmental uncertainty *means* to them in their professional context, and how they *deal* with uncertainty in the budgetary process. Such questions called for a specific research design. We used a field-based, construct-driven method, and implemented projective techniques.

Despite a long-standing case for qualitative, field-based research in management (Morgan & Smircich, 1980; Yin, 1984; Bruns & Kaplan, 1987; Miller, 1996; Ahrens & Dent, 1998), very few budgeting studies (Lukka, 1988; Simons, 1990) have used a field-based approach and no RAPM study has to our knowledge explored the possibility of qualitative research. As our study is grounded in a well-defined pre-existing literature, we designed a research method that is construct-driven, not case-driven, and close to "cross-sectional field studies", as defined by Lillis & Mundy (2003): instead of survey instruments, these field studies consist in limited in-depth studies, with a positivist epistemology, relying on relatively short interviews in multiple research sites.

In taking this approach, we chose a different methodological route from that explored by other RAPM studies over the past two decades. Applying an alternative methodological stance to a literature that is well-grounded in a highly documented research methodology is a challenge, but our view is encouraged by the caveats against existing studies (Chapman, 1997:203). We assume that RAPM studies have failed in designing consistent, theory-driven variables because they lack a way of measuring managers' attitudes towards the constructs and offer limited contextual insights. The limits of current methodological choices have been pointed out:

> "RAPM research has come to overemphasize statistical sophistication to the detriment of theory development." (Hartmann, 2000:452)

and several calls for a renewal of this cumulative body of empirical research have suggested a move towards "more, small, high-quality and theory-driven replication studies" (Otley & Pollanen, 2000:483; Otley & Fakiolas, 2000:497; Hartmann, 2000:477).

A field-based design appears highly appropriate to RAPM research at this point, since the field has: "extensive established theory relating to the constructs under study; established variable specifications and measurements used in prior studies; significant doubt about the precise specification and measurement of variables, their empirical interpretation or the relations among them." (Lillis & Mundy, 2003:25).

> "[Such studies] offer a means to improve our understanding of important constructs that may otherwise remain poorly understood and operationalized." (Lillis & Mundy, 2003:3)

Cross-sectional field studies may enable researchers to uncover the reasons that explain conflicting results, ambiguities and tensions in prior research (Lillis & Mundy, 2003:6). Even though this approach is less documented and less common than survey or case-study methods in accounting and control research, it has been successfully used to explore important constructs (Merchant & Manzoni, 1989; Bruns & MacKinnon, 1993; Abernethy & Lillis, 1995).

The field-based stories contained in this paper are construct-driven, not case-driven, and seek to explore the "interpretive fuzziness of the constructs" (Eisenhardt, 1989). We are looking for patterns across companies and interviews. Cross-sectional studies fall neither into the survey nor the in-depth case studies category: our approach is not interpretive, and data analysis is not based on "telling individual stories that make sense" (Ahrens & Dent, 1998) as would be the case in case studies. Instead, our data analysis is largely theory-related and construct-driven.

The rest of this part describes our data collection process and our sample characteristics.

2.2. Data collection: projective techniques

The main specific feature of our study was the use of projective techniques to conduct 14 semi-structured interviews with senior sales and marketing line managers in large companies in France.

Our aim was to identify the managers' perceptions and *feelings* in relation to RAPM and PEU, rather than to just collect "factual" data about their companies. As a result, we used a data collection design that enabled us to discuss the managers' perceptions and personal experiences in relation to uncertainty, budgeting and performance evaluation. To this end, we used specific interview techniques known as projective techniques, imported from consumer analysis studies (Dichter, 1964; Mason, 1996). Our questions to the managers were accompanied by carefully designed visuals onto which the interviewees were able to *project* their perceptions and feelings (Anzieu & Chabert, 1992). We had a professional illustrator draw deliberately elusive pictures suggesting a range of situations and attitudes. The interviewees were invited to identify with one or with several pictures[iii], but then, since the drawings were only evocative, they would elaborate on that and tell their own stories. The way the interviewees interpreted the pictures revealed much about their own emotions, feelings and perceptions. Within a time-constrained interview, the visuals helped us to focus the managers on the "heart" of our subject: their perceptions. This serves to minimize the "politically correct" discourse that interviewees tend to produce.

The interviews lasted one and a half to two hours on average, and we were able to discuss the following topics with the managers: the organizational and external environmental contexts of operations, goal-setting and target-setting in the budgeting process, the role of budgetary information in guiding action and decision-making all year round, target achievement, and performance evaluation.

Four series of pictures were used during each interview; a visual sample is provided in appendix 1 (series B & D). The A & B series helped us elaborate on certain constructs used in the literature: the A series was especially helpful in assessing perceived budget tightness, and perceived budget pressure in relation to the managers' commitment to RAPM; the B series offered the managers an opportunity to reflect on budget participation at goal-setting time. The C & D series helped to bring out “new” constructs in the PEU-RAPM relationship: the C series highlighted “*mutualization*” and the ongoing, collective nature of RAPM; the D series also brought out “new” constructs, such as reputation and trust-building.

Fully transcripted interviews – 18 to 25 single-spaced pages – provided a very rich set of data. Most of the collected discourse was usable and directly related to our research questions. The use of projective techniques meant the number of interviews was limited (14) compared to previous cross-sectional studies (Merchant & Manzoni, 1989; Bruns & MacKinnon, 1993), since the interviews were longer and more open-ended, aiming at collecting not only comparable evidence, but also feelings and personal experience. The high quality of the data is possibly due to the high level of respondents' sincerity, which is enhanced by the use of projective techniques and our sample characteristics. The richness of a qualitative raw material involves some subjectivity in interpretation, but the participation and decoding by three different researchers ensured an acceptable degree of triangulation.

2.3. Sample characteristics

We decided to conduct our interviews with marketing and sales managers for four reasons.

First, a non-random cross-sectional sample required a relatively homogeneous group of managers in terms of nature and level of responsibility: the managers had to be “fully” responsible, in budgetary terms, for cost and revenue objectives, which left no room for production center managers, who are mostly in control of costs. Some studies (Merchant, 1984, 1985) have focused on first-level profit center managers. This provides an interesting sample, but one that represents a wide range of actual decision rights – depending on the corporate decentralization philosophy, the organizational structure, and so forth[iv]. We interviewed senior operational marketing and sales managers reporting to a divisional managing director (MD). They sometimes had a hierarchical link to a Corporate Marketing & Sales VP/Director too. Such managers are in charge of clearly identified and measurable objectives from a budget perspective: turnover, cost of resources to achieve those turnover objectives, and additional longer-term issues related to customer satisfaction, customer loyalty, brand awareness and image.

Second, marketing and sales departments have undergone high levels of external environmental ambiguity in rapidly changing markets in the past twenty years, and disturbances are not always easily predictable, so this is an appropriate field to capture uncertainty over the consequences of action, and the need for developing adaptative behaviors to cope with what can be rapidly changing environments[v].

Third, senior marketing and sales managers are at a "managerial crossroads" and illustrate the intermediate level of management to which management control applies (Anthony, 1981). Like "the ham in the sandwich", they are in ongoing dialogue with both top management (directly pressured by the shareholders and financial markets), and the operational teams. Interviewing this level of management means we can go deeper into the "organizational thickness".

Last, technically speaking, the sales budget is the starting point for corporate budgeting. An (in)appropriate sales budget cascades down over the rest of the organization's budgets – production, purchasing, investments, and so forth, thus making target-setting and the achievement of objectives even more crucial at the marketing and sales level.

We also looked for as much variety as possible in terms of industries, group size, and distribution channels. Although the group sizes were different, the divisional unit sizes were comparable, so as to minimize the size effects, and all companies had established formal procedures. The respondents' companies represented a variety of industries: drugs/pharmaceuticals, computers, information technology, environment, healthcare, transportation, transportation equipment, telecommunications, luxury, packaging, tobacco, food, and beverages.

Careful attention was paid to building trust with our interviewees, working on the assumption that the quality of interview data is highly dependent upon the level of trust achieved with the interviewees. We carefully "recruited" our respondents from our network of direct or indirect professional relationships. While this may lead to some bias, it greatly improves the level of trust, especially in relatively short interviews when we wish people to "unlock" their feelings. Interviewees in all cases remain concerned with their reputation and are prone to painting a picture of themselves as hero, but at least they feel more “comfortable” talking to acquaintances. We contacted them directly, never through a hierarchical line or via control or finance managers in their companies; this was intended to reassure them that absolutely no organizational or institutional use would be made of what they expressed. With this pressure lifted, they had an opportunity to reflect on themselves in a “safe, private” place. We thus avoided one of the pitfalls of action research and in-depth case studies where some feedback has to be returned to the organization, generally in the form of consultancy work, which means the researcher becomes an actor herself. The interviewees were giving us two hours of their time, and we would give them back those two hours, to take a step back from their experiences and talk about themselves in a structured way.

3. Results

We present our results in two sections. Section 3.1 reports our findings in terms of how PEU affects the perception of RAPM by the managers. This helps us understand *in which circumstances* PEU can influence budgetary practices and make RAPM either dysfunctional or, on the contrary, a driver of managerial performance. It thus enriches the uncertainty concept. Section 3.2 describes the social adjustments occurring in high PEU contexts; it shows how marketing and sales managers develop certain mechanisms to “compensate for” or avoid the pressure imposed on them, which might otherwise turn into job-related tension, anxiety or other dysfunctional behaviors. It also discusses the RAPM and budgetary participation constructs, and highlights the importance of “new” constructs, like trust and reputation, in improving understanding of the RAPM process. Table 1 summarizes our findings and how they enrich the traditional RAPM constructs.

Insert Table 1 here

3.1. Perceptions of Environmental Uncertainty and effects on RAPM

A deeper understanding of PEU and its relationship to control has emerged from the field, providing rationales for the conflicting results in the RAPM literature. PEU, defined as an information deficit, can take different forms, which may be actionable to the managers, or non-actionable. When associated with a high budget emphasis, PEU is only a source of dysfunctional consequences when it is *not* actionable. In other words, RAPM in situations of high uncertainty can lead to increased motivation, positive behavior, and goal congruence when managers believe that their actions can reduce PEU: for instance, in improving information systems, organizational structures, knowledge of markets, managers believe they can reduce the information deficit; by improving their knowledge of actions, they can also increase their efforts in order to achieve their objectives. Conversely, RAPM will become a source of stress, anxiety, job-related tension, and maybe decreased performance due to the hidden costs of mental dismissal when the information deficit is believed beyond their control. In such situations, RAPM is inappropriate.

Actionable situations

In perceived actionable situations, the marketing and sales managers emphasize their role in managing risk. They would consider it "their job" to deal with certain PEU situations, find ways to reduce it, and "meet the budget" as expected. The absence of uncertainty, total predictability, would describe situations with no need for managerial jobs, no need for management control. And yet control implies *some capacity to act upon a situation*. Managers are paid for "reasonable" risk sharing and *their perception* of the limits of "reasonable risk" conditions the effectiveness of management control. This managerial perception seems to be triggered by (1) the possibility of acquiring more information, so as to reduce external, environmental uncertainty, (2) the possibility of taking actions, and the confidence that actions and efforts will turn into results.

Some field scenes highlighted (1) the importance of the possibility of acquiring more information when you plan, thus making the environment more predictable:

"I would say... you can see trends, and you can take into account some commercial factors, like possible changes in your distribution system, or the tax system, which have an impact on volumes. You could say that as long as you have enough information from the markets, forecasting is relatively easy..." (*Beverages*)

"We used to sell mostly 75cl bottles. Then one day our distributor said, "well, for restaurants, it's important to have a different size, a 1-liter bottle" (...) Within two years, this has become the best-selling product. Had I not had this kind of information, we would have forecasted the same volumes as previously on the 75cl and 1l bottles, and we would have been out of stock on the 1l bottle, and left with far too many 75cl bottles. Manufacturing and purchasing can't be aware of all those things... So it's crucial that I keep in constant touch with the markets and any information coming from the markets." (*Beverages*)

Other situations focus around (2) the possibility of increasing effort, combined with a belief that efforts will turn into results. In these cases, the managers anticipate change but they are no better at predicting change, so they rely on their capacity for rapid reaction. Managers feel confident when they know that they are able to increase their responsiveness and that actions turn into results:

"I have a ROI for each action. For instance, I know that if I'm running a mega-Public relations operation and take 500 doctors to Budapest, my ROI is about 8 patients per doctor... and I know how long it takes those 8 patients to buy our product. What I have to decide is which product to focus on, whether I should do the PR for product A or product B. But if I deprive a product manager of a promotion campaign, well, that means less patients and less turnover too.
(...) I mean, you know, at some point, YOU are the market too. I mean if you need to achieve 28% growth, one competitor's on 22%, another one 18%, well it all depends how much effort you put in. (...) If the doctors are pressured with the government telling them to prescribe generics, well, the government is in a pretty weak position. There's only one Minister telling them that, while I have 540 medical representatives in the field, paying over 2,500 visits a day..(...). So the market, no, the market comes down to just how much effort the competitors put in." (*Pharmaceuticals*)

In actionable PEU situations, RAPM is experienced as an incentive rather than a cause of stress and anxiety. The managers are eager to find ways to meet the budget because "it's their job" or simply because they accept it as a basic rule of the game.

Non-actionable situations

In other situations, managers cannot predict and cannot reduce risk. PEU is not actionable to them, which means RAPM is inappropriate in their view, and can become dysfunctional.

"We are 2/3 dependent on the North-American markets. You are always very concerned about political issues between Europe and the US. (...) When boots are marching in Irak or things like that, of course it has some impact..."
"(…) Planning gets far more complex when we need to forecast exchange rate fluctuations. We sell in the market's currency (...) of course when a currency depreciates and we charge them in euros, the margin we'd agreed upon shrinks and what's worse, the

distributor loses his incentive to push our products if he isn't making enough money on them, or he might need to increase the market prices, which is also dangerous... So we decided to bear the currency risks and hedge to protect our distributor from them. That means the burden is back on our shoulders...(...) Fluctuations can be huge (...) 10% of our sales and profits vanishing... And of course, there's not much we can say or do about it. We could try and talk to Mr. Bush..." (*Beverages*)

"There are plenty of analyzable reasons to explain large variances, but most of the time variances are due to independent factors, I would say non-controllable factors, factors that aren't related to the brand's development or performance...[...]
Look at that, -27%, that's Greece. There's been a dockers' strike, all the docks and goods were blocked for two months and [the customers] got their deliveries in January, after the holiday season, when nobody needed them anymore.... Take America, not long ago (...) We ship to the West Coast, it takes a month and a half... Then a strike begins and your ship is stuck in the middle of the ocean... the goods are going to have to wait one or two months on the ships (...) We do every possible kind of acrobatics, we ship containers to the East Coast, get freight companies to take the goods by land to California, it's getting impossible... it's all acrobatics... You can forget about your forecasts and plans in those circumstances! The kind of spanner in the works that brings the whole setup down..." (*Beverages*)

In sum, when complexity or interdependence requires such things as fine-tuning or an increase in the level of organizational knowledge, or improving internal information processes, managers are willing to take up the challenge. However, when assumptions become a roulette game, extrapolations are infeasible and managers refuse to turn into gamblers. Their perception of uncertainty turns RAPM into a ***threat.*** One way to reduce this threat is to reduce RAPM, for instance decreasing target tightness, loosening the ties between performance evaluation and budget achievements, or simply lowering the related effects on compensation, decoupling the formal performance evaluation system based on RAPM from the compensation system.

"We don't have any performance-based rewards – I mean neither money nor any other rewards, no variable compensation or bonus... for a relatively simple reason... things are actually not very actionable for us, or for them here, when you look at the whole supply chain, the distribution channel and so forth... So what's a bonus worth...." (*Beverages*)

"Performance evaluation... Well, my boss, part of his salary is variable, but based on a variety of criteria, not just turnover. The sales force also has incentives, on very specific points. There's no bonus based on sales figures alone. It can be taken into account in your performance evaluation, but along with many other criteria.(...) Performance evaluation relies more on whether you achieve or fail to achieve your personal development objectives. In my case, for instance, we agreed I should develop and be more sales-oriented, less marketing-oriented." *(Healthcare)*

In high PEU contexts, another possibility emerged from our field data: maintaining RAPM with some “social adjustments”.

3.2 Social adjustments to RAPM in high PEU contexts

In non-actionable high-uncertainty contexts, marketing and sales managers rely on certain social mechanisms to “compensate for” and avoid the potential dysfunctional effects of RAPM. RAPM can thus be kept at a high level, while organizational processes and structures, which the traditional theoretical constructs tend to ignore, alleviate the stress and anxiety carried by high RAPM in a high non-controllable PEU context. Two categories of social adjustments emerged from the field study. A first category of adjustments consists of modifying the “rules of the budgeting game”, so that it becomes a collective game rather than the one-to-one relationship between a superior and her/his subordinate generally described in the literature, and an ongoing process of exchanges and discussions rather than a one-point in time contract. A second category of adjustments takes the form of decoupling between the formal RAPM system and the informal performance evaluation system. RAPM goes on, but informal assessment based on trust and reputation becomes prevalent over the formal performance evaluation system – sometimes even over bonuses. All these mechanisms contribute to “letting the RAPM game go on” while limiting its potential dysfunctional effects.

The rules of the budgeting game: towards a collective, ongoing process

While in the RAPM literature goal-setting and performance evaluation are presented as taking place in a one-to-one relationship between two individuals, the interviews depicted a different picture, of a much more collective management of objectives. In low–actionable environments, some managers described a process of risk- and effort-sharing, which they called “*mutualization*”. Paradoxically, while doing business on a global scale increases complexity and uncertainty, it also makes it easier to diversify and spread the risks, thus compensating for high non-actionable PEU environments: although the results may remain uncertain for a specific project, on a global basis annual results are more certain. This encourages managers to set collective goals instead of individual goals:

“[We set] collective objectives because [...] we assume that while some contracts will be postponed or cancelled, others will come through this year. So a collective order booking objective is established for the whole marketing and sales team.” (*Transportation equipment*)

For a marketing and sales manager, this *mutualization* operates at two levels, within the team (s)he manages, and at the corporate level.

Mutualization at the corporate level means that divisions can frequently be called upon to compensate for other divisions’ unsatisfactory performances. Divisional marketing and sales managers feel the increased pressure placed on top management by the financial markets. Well before any budget-setting process starts, the company’s overall objectives have already been communicated to the financial markets and must be achieved.

“Although it's unusual, in some circumstances, the overall objectives may change at the top. When the results come out throughout the year, it becomes clear that some BU have large variances and aren't going to make it. Since the overall objective remains the same and the group is still committed to its promises, there are some adjustments and they'll tell us: “hey, since this business has had lots of difficulties” - sales, operations, whatever - well, you may have to ask the other divisions to make an effort to balance and compensate for this... It's happened before...(...) Our boss thinks of us as one single company. Four divisions do not mean four distinct companies... Every division must show solidarity and contribute as much as it can...
Just last year, when the North American market wasn't making budget, the rest of the world had to compensate. Generally we don’t like when it happens. We say OK but then it’s our problem, it’s a managerial issue, you have to manage it within your own team...” (*Telecom company*)

The same marketing and sales managers who are frequently called upon to compensate for their peers’ poor performance apply similar *mutualization* practices to their own teams:

“10%, that’s the overall objective for my team, I mutualize and split it between my subordinates. (…)
Once the budget has been set, it's frozen and non-negotiable. For instance, I committed to 5 million on product P. It’s a new product, a launch. We didn't get approval from the Health and Sanitary Department on time; governmental departments were three months late in issuing the approval. Nobody cares in here. It’s my problem. I think I can make 3 million instead. I've changed the 5 into 3 in my head. But they don’t care. I need to find two more million elsewhere. I'll do it. Another product.
(…) Yes, it happens that I don't make the bottom line target on specific products. (…) If I don't make it on one product but I know I can make up on another product, I go for that option. I'm not going to let everybody know I won’t make it on the first product, because

otherwise I'll be spending my whole time arguing, preparing business reviews and bloody power point presentations for the International guys to explain why I'm late, and instead, I'd rather be working on a solution to catch up, you know what I mean..." (*Pharmaceuticals)*

This is a picture rarely taken into account by the RAPM literature, probably because it relies on a theoretically naïve conception of decentralization – autonomy, independence. In practice, a process of risk-and effort-sharing applies both within the marketing and sales department and between business units within the firm. As managers find different ways around non-actionable uncertainty, one possible social arrangement is a more collective management of risk.

"There is kind of an environment, a culture oriented more towards the collective higher interest than individual visibility." (*Healthcare*)

As perceived non-actionable uncertainty increases, another change occurs in the rules of the budgeting game: discussions between the different hierarchical levels – above and below marketing and sales managers – become more intense and a closer management relationship develops. Arm's-length management is replaced by ongoing interactions throughout the year with teams and/or superiors; the discussions do not question the targets, but address detailed actions and strategies to achieve the best the managers can.

"It's a top-down demand... when it reaches me, I say to my sales team, "these are my objectives, have a closer look at them, then we'll talk about it", and when they come back to me, I tell them I'll consider any suggestion, any complaint, any critical idea, I discuss with them what they need, how they can achieve their objectives, ..." (*Telecom company*)

"There's been a lot of discussion and talking before we get to this point, I mean, much earlier than budgeting and setting the targets. When we talk about emergent or developing markets, it's an ongoing discussion, we don't wait for the planning exercise to discuss our strategy, what we could do, or to take corrective action. It's an ongoing dialogue. We don't wait until the formal exercise to discuss the issues. Of course, at a certain point, we need to set the targets, of course we sit and discuss things and there might be some disagreements but, I mean, there've never been any huge disagreements or conflicts at this point; [...] you can always argue that somebody's objectives aren't ambitious enough; of course there are arguments, but never a completely different view on things. It's already been debated." (*Tobacco)*

"This year for instance, we had more budget pressure and we knew from the outset that we wouldn't be able to make it, so we didn't wait until R2 to signal and ask what we should do. From the beginning of the year, I told everybody "see what you have left in marketing & sales budgeted investments, then we'll do a trade-off after the new May forecasts". So everybody had a perspective much earlier and we had worked on different scenarios. At this point, we make choices and say, "well, if we want to achieve this contribution level, we need to cut back on this country or on development". But there's open communication from the start." (*Tobacco)*

The managers describe a different scenario from that depicted by the budgetary participation construct in the RAPM literature. Budgetary participation has generally been described as a manager's ability to discuss his/her objectives with his/her superior. This ability is unchanged in the situations described, but many adjustments occur, suggesting that the budgetary participation construct is richer than is often presented: budgetary participation needs to be redefined as the possibility, for managers, of extensive discussion of their concerns about how to achieve the objectives throughout the year, which acts as a release and a "safety net". When PEU increases and a dynamic and unpredictable environment threatens the achievement of the overall objectives, discussions are quantitatively and qualitatively stepped up. Managers feel a need for more information, from their "teams" (subordinates) or from their hierarchy, to help them come up with alternatives for corrective decision-making. This does not mean that their opinions are more valuable or carry more weight than in relatively stable periods. But more active, more detailed <u>and</u> tougher discussions about how to rescue the overall target can release and diffuse the perceived budget pressure and job-tension. This is related to the second category of social adjustments to RAPM that emerged from the field, discussed below: such discussions offer a "safety net" to the extent that they provide a process managers can use to make sure their superiors' assessment of them is not solely based on RAPM.

Decoupling RAPM from informal assessment based on trust and reputation

As non-actionable PEU increases, a second category of social adjustments consists of decoupling the formal performance evaluation system from the individual's actual – and largely informal - assessment. Managers take a detached view of formal performance evaluation systems. On one hand, they describe the formal evaluative system in a detailed manner and appear to accept it with a certain "fatalism". They acknowledge it as a fact, and take it seriously, as it has a significant impact on compensation.

“Don’t fool around with budgeting, because 40% of people's salaries is performance-based , so it’s based on how well you budgeted... If you set them a non-realistic budget, there's no motivation. And I don't have two figures, one for them, one for my boss... Just one.”(*Pharmaceuticals*)

But at the same time, the managers can also look at the performance evaluation system objectively and see it for what it is: an imperfect measurement and incentive system.

“No, I don't dream about budgets at night, I don't have nightmares. I'm not stressed because of budgeting. No, you have to look at the object of the exercise.” (*Beverages*)

Reputation, although the managers never pronounced the word, seems to count more than short-term performance evaluation. The performance measurement system is only one possible - and imperfect - way to assess managers’ value and create reputation in the longer term:

“At the end of the year my boss said to me: 97%, well you nearly made it”, and I answered, “well, I did much more than was humanly feasible” (...) I don't think anyone's fooled. Well, if people feel that you didn't achieve your targets because there was some under-optimization in the use of resources or knowledge, it’s different... I think it’s easier when they believe the manager is smart, (s)he did his/her best, so if (s)he doesn't make it, they think “well, that’s the way it is...”. And then you have the success stories... Let me give you an example: at the beginning of the year we had a difficult product, plenty of competitors coming in with huge resources and sales networks. A major product for us. No more growth, but big numbers. (...) Well, the product is going -14%, -16%, -18%, my target is –8% , I make +0.8%! They say, “Wow, what a great job he did!”...” (*Pharmaceuticals*)

“Individual emergence wasn't systematically related to results, there were the good guys and the rest, it was stamped all over their faces from the beginning, I mean, very quickly. It was kind of... When the organizational structure was moving, those considered as good guys, they were called first, then those who were considered not-so-good, they were called last... That’s the way it was...” (*Healthcare*)

The managers seem to refuse to reduce their “freedom of judgment” to what is dictated by the performance measurement system, although they accept that bonuses and rewards are linked to the formal system. Appreciation and reputation are prevalent.

“You also need some recognition at some point, I mean, some recognition that you've done a good job. But that wasn't in the results. Something more collective... I mean I remember how proud we were. Oh yes, it’s good to be proud of yourselves!” (*Healthcare*)

In terms of incentives and sanctions, the managers make a clear distinction between the short-term bonus and variable compensation systems, and their long-term reputation, which maybe matters more to them. There is an emphasis on being rewarded for doing “my job” well, and doing “what is humanly feasible”.

The field study also showed that the managers experience budgeting as a multiple-year game, not a one-time experience. The failure to take into account that negotiations and goal-setting in a given year are largely influenced by what occurred in previous years may be a serious limitation of RAPM studies: the level of trust built, the achievement or non-achievement of targets, and the budget emphasis and RAPM of previous years impact budget tightness and budget participation as the process repeats. It emerged from our interviews that building trust is a crucial phenomenon, rarely introduced in the RAPM perspective.

“So when I hand it in to the big bosses, surprisingly, we get a fair hearing, they listen to us. Because you know why, credibility comes into the process. If you've done well in the past 2 or 3 years... The first slide I show to my boss argues “Look, last year I said I would make that much. I made it, sales and costs”. You do what you say and you say what you do. So after a while they really trust you and if they say, “we need 5 million more sales” you answer “OK, but I need this many more resources to make it. Here are the actions we need to take”. (...) Product managers have enormous power here.” (*Pharmaceuticals*)

Some RAPM studies focusing on slack creation and more generally on the dysfunctional effects of RAPM partly address the time issue, in that they look for the current consequences of past characteristics. But only noticeable exceptions (Webb, 2002) have actually integrated constructs related to trust, multiple-year settings, and interrelations between the budget tightness and the budget emphasis. The expectations on both sides of budgetary negotiation, based on the previous years’ experience, are worth further theoretical and empirical consideration in RAPM research. The trust construct also needs to be studied in relation to the reputation construct referred to earlier: for managers, building reputation might be closely related to building trust with their hierarchy.

Conclusion

Based on a field study with senior marketing and sales managers, this paper suggests some important results for RAPM. First, it has emphasized that RAPM and budgeting are an ongoing process over the year, where target-setting, daily monitoring of actions and final performance evaluation are fully embedded in each other; in the same vein, RAPM is a multiple-year ongoing process that does not stop at the end of year 1, but needs to be considered as a repetitive game lasting several rounds. The field results showed that the managers' feelings of *actionability*, i.e. the possibility of reducing information gaps and turning effort into results, appears to have some impact on the RAPM-PEU relationship. In high non-actionable PEU situations, when RAPM may become dysfunctional, organizations either reduce RAPM or engage in social readjustment mechanisms that enable RAPM to go on. The main social adjustments that we observed include (1) changing the "rules of the budgeting game" into a more collective management of risk and effort, and increased inter-hierarchical discussions, and (2) decoupling individual assessments from the formal RAPM, as building long-term trust and reputation become prevalent over short-term compensation.

Future directions

Although our study carries important results that should be taken into account into further empirical RAPM research, it contains certain limitations, especially those inherent to cross-sectional field studies. A qualitative, exploratory study was designed to enable both the broadening of the scope of the RAPM-PEU relationship, which needs to be put back in its organizational context, and a fine-tuning of some important constructs. Our findings however can not be generalized from a small number of interviews. Some replication, defined as "looking for significant *sameness* in a series of studies, in order to be able to generalize the results" (Lindsay, 1995)[vi] will be needed in the future. Differentiated replications could use different research instruments and methods, at different sites, with different researchers. There is room for a variety of methodological stances, from more straightforward theory-driven quantitative studies that clearly operationalize the constructs, to in-depth qualitative studies that improve understanding of the social adjustment mechanisms and "new" constructs such as reputation and trust.

A second limitation of this study, which opens new avenues for future research, is the absence of a cultural analysis of the results. Certainly our findings belong to a French context and many could be re-interpreted as cultural phenomena[vii]. For instance, the emphasis on long-term performance, which makes trust important in a multiple-year setting, and the prevalence of reputation, may be French cultural features (P.d'Iribarne, 1989); *mutualization* and the collective goal-setting may be related to a less individualist culture than in the UK or the US; the distant look towards formal administrative mechanisms, maintaining the budget and compensation systems, but "playing games around", may also be French-specific. Thus one issue is whether our findings would repeat and our results hold in different cultural contexts. Again, replication studies in different national settings could help validate and contribute to generalize our findings or at the opposite highlight the French cultural "bias". Could we find *mutualization* processes in the same way in the UK, in Nordic countries, or in Germany? Is reputation also playing an important role in different countries to "let the RAPM go on" in high non-actionable PEU situations?

Last, the paper also seeks to open the path for reconciliation between RAPM research and practice. Academic research cannot afford to ignore managerial issues, innovations and practices, at a time when most companies are engaged in a quest for more balanced, non-accounting, evaluative styles (balanced scorecard issues) and are questioning budget and compensation practices, looking forward to more flexible and reactive targets (beyond budgeting issues).

Appendix : Projective techniques and visuals

The A series of visuals related to managerial attitudes in goal and target-setting, which could range from anxiety and stress to indifference, boredom, or serenity. The visuals were meant to collect information on the perceived budget pressure and tightness, as well as on the managers' commitment to RAPM.

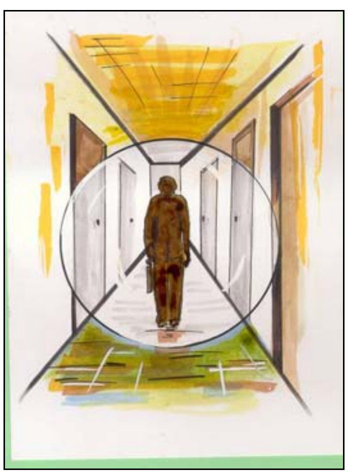
The B series was used to explore the manager's experience of his/her relation to his/her superior and subordinates during the same goal and target-setting phase – for instance more specifically involving such constructs as budget participation, slack creation, budget tightness.

The C series of visuals captured the reactions of our sample managers to questions such as: what happens when major variances occur during the year? How would his/her problem be dealt with? It let the collective processes and "*mutualization*" phenomenon emerge.

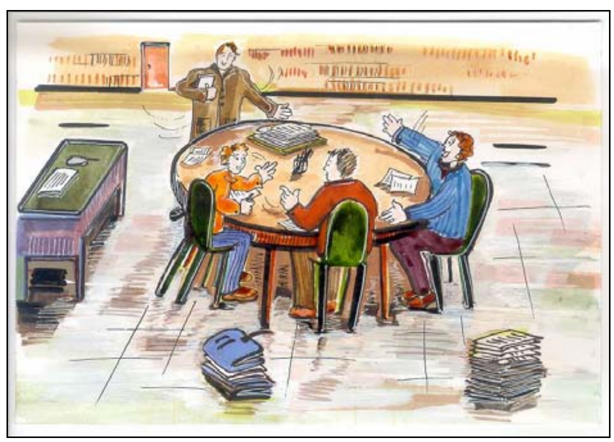
Last, the D series suggested different scenarios for the consequences of unachieved objectives at the end of the year. The interviewees could express how "failure" is perceived and "managed" in their context, and describe what the performance evaluation process actually is – criteria, characteristics, consequences, and "meaning". Reputation and trust-building especially came out of these visuals.

Examples, B and D series:

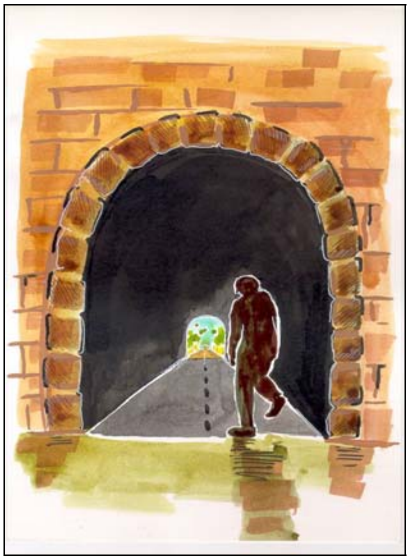
Visual B. 1



Visual B. 2



Visual B. 3

<table>
<tr><td>Visual D.1
</td><td>Visual D.3
</td></tr>
<tr><td>Visual D.2
</td><td>Visual D.4
</td></tr>
</table>

[i] : Ezzamel (1990) has validated PEU – and PEU only – as a contextual variable that impacts budget characteristics, and especially budget participation and interactions with the superiors. No significant relationship was found to performance.

[ii] : Brownell (1985) does not validate his expectations of a weaker RAPM-performance relation in R&D departments, where task uncertainty – complexity- is supposed to be higher than in marketing departments. We might argue that R&D departments undergo higher complexity but probably not higher uncertainty than the marketing and sales departments; defining marketing and sales departments as low uncertainty contexts seems abusive...

[iii] : Note that we would not insist or be intrusive when the respondent did not “see” anything in the picture; it would simply mean that the picture would not refer to anything to this person in his/her professional budgeting context.

[iv] : Most empirical RAPM studies have chosen for level of analysis production centers or profit centers (SBU managers). Some conflicting results – for instance Hopwood (1972) vs. Otley (1978) have tentatively been explained by the difference in the nature of responsibility centers, as their PEU would considerably vary. The nature of the responsibility center and departmental function has even been taken as a proxy of environmental uncertainty by some studies (Brownell, 1985).

[v] : As already mentioned, Brownell (1985) considered marketing departments as low uncertainty departments as compared to R&D. Goals ambiguity is certainly more limited for marketing and sales managers than R1D managers – although marketing and sales managers undergo increasing conflicting objectives in the long and short-term.

[vi] : Lindsay (1995) considers replication as the “successful bedrock of scientific knowledge” and prefers replications to Tests of Significance, which look for significant differences in a single experiment.

[vii] : in a different perspective, Hartmann (1998) has emphasized that “the appropriateness of APM not only depends on external and work-related uncertainty but also on managers’ personal tolerance for ambiguity and uncertainty” (1998:573), which has been a long-standing cultural dimension since Hofstede’s studies.

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Table 1
PEU and effects on RAPM:
Field results summary and comparative analysis with the RAPM literature

Constructs	**RAPM literature**	**Field results in high PEU environments**
PEU (perceived environmental uncertainty)	High PEU contexts generate a lower RAPM because RAPM becomes more difficult to implement and encourages dysfunctional behaviors Based on accounting incompleteness theories The “uncertainty paradox”: conflict between the *desirability* and the *possibility* of control	*There is more than one kind of PEU:* - RAPM can go on and even have positive effects in high PEU *actionable* situations: when the managers can increase their efforts and reduce the information deficit – improving the predictability of change, or increasing the ability to react quickly to change (responsiveness) - In high PEU *non-actionable* situations RAPM will need some social adjustments to go on and avoid dysfunctional effects
Social adjustments in high non-actionable PEU environments: changing the “rules of the budgeting game”		
RAPM, budget pressure	Goal-setting and performance evaluation take place in a one-to-one, individual relationship	Risk and effort are shared in a team There is a collective management of objectives “*Mutualization*” emerges, both at the corporate level and in the marketing & sales team
Budget participation	Is defined as a manager’s ability to discuss and influence his/her objectives at target-setting time Based on arm-length management	Budgetary participation is the possibility for a manager, all year round, to discuss thoroughly HOW to achieve his/her objectives or rescue an overall target Based on close management relationships and on-going discussions related to detailed actions and strategies
Social adjustments in high non-actionable PEU environments: decoupling individual appreciation from RAPM		
Budget-based incentives, motivation, and compensation systems	The managers motivation is based on short-term compensation systems The bonus is tied into meeting the budget	Bonuses and compensation systems are accepted, but informal “actual” appreciation is prevalent over the formal performance evaluation system Managers primarily try and build reputation and trust from their hierarchy
RAPM time span	Budgeting is a one-year game with two prevalent times: - target-setting at the beginning, - performance evaluation at the end	Budgeting is a multiple year game, over several rounds This is how credibility, reputation and trust come into the process