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Accounting information and managerial work

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ABSTRACT

Despite calls to link management accounting more closely to management (Jonsson, 1998), much is still to be learned about the role of accounting information in managerial work. This lack of progress stems partly from a failure to incorporate in research efforts the findings regarding the nature of managerial work, as well as inadequate attention devoted to the detailed practices through which accounting information is actually used by managers in their work. In this paper I draw on prior research to develop a series of propositions focused on three primary insights into how and why managers use accounting information in their work. First, managers primarily use accounting information to develop knowledge of their work environment rather than as an input into specific decision making scenarios. In this role, accounting information can help managers to develop knowledge to prepare for unknown future decisions and activities. Second, as accounting information is just one part of the wider information set that managers use to perform their work, it is imperative to consider its strengths and weaknesses not in isolation but relative to other sources of information at a manager's disposal. Third, as managers interact with information and other managers utilising primarily verbal forms of communication, it is through talk rather than through written reports that accounting information becomes implicated in managerial work. These insights have important implications for how managers use accounting information, and, in particular, require reconsideration of the types accounting information that managers find, or could find, helpful. The paper also considers how existing experimental and field-based methods could fruitfully be adapted to focus on the detailed activities through which managers engage with accounting information.

Despite calls to link management accounting more closely to management (Jonsson, 1998), much is still to be learned about the role of accounting information in managerial work. For what purposes do managers use accounting information beyond its role in specific decision making scenarios? With many other information sources on offer, what is it about accounting information that managers find helpful? How exactly is accounting information used by managers in discussions and debates with subordinates and other managers?

Over ten years ago, Jonsson (1998) exclaimed in the title of his paper the need to “relate management accounting research to managerial work!” Despite Jonsson’s (1998) fervent arguments, future research has generated few studies directed towards understanding how managers engage with accounting information in their work. Much management accounting research has been focused on how managers use accounting information to make decisions in well-defined scenarios. Although managers do make decisions, and many of these are undoubtedly important, empirical investigations of what managers actually do show that decision making is only a relatively small part of managerial work and sometimes not that critical (for example, see Mintzberg, 1973; Kotter, 1982; Hales, 1986; Stewart, 1988; Whately, 1985). In addition, much managerial work involves addressing problems that involve turbulence, doubt, uncertainty, and the potential for significant error (Hales, 1986; Kotter, 1982; Isenberg, 1984; Landau & Stout, 1979). As such, a strong focus on how managers use accounting information to make specific decisions in well-defined contexts is restrictive as it limits consideration of other, potentially much more important, ways that managers use accounting information in their work.

There is also much to learn about how managers engage with accounting information because there are remarkably few studies of what information managers actually use or might use (Anderson, 2008; March, 1986). In particular, prior studies have devoted inadequate attention to the detailed practices through which accounting information is used by managers in their work (Ahrens & Chapman, 2007; Hopwood, 1989). Studies that focus on organisational-level issues only are limited because they are typically based upon assumptions about, rather than a detailed



investigation of, managerial work behaviour (Covaleski, Evans, Luft and Shields, 2003; Hall, 2008a). What is often missing from these organisational accounts is an analysis of the detailed ways in which managers use accounting information to perform particular activities.

Three studies in particular reveal the kinds of insights that can be generated from inquiries directed more closely at examining how managers engage with accounting information (Simon et al., 1954; Preston, 1986; McKinnon & Bruns, 1992). Although best known for its typology of score-keeping, attention directing and problem-solving, the Simon et al. (1954) study provides considerable evidence concerning how different types of managers used (or did not use) accounting information. Preston (1986) examined how managers in a plastics factory engaged in what he termed “the process of informing”, which involved the use of accounting information as well as other more informal sources such as observations, personal record keeping and meetings. He concluded that informal sources of information are used in spite of, rather than because of, limitations to formal documented systems as they are intrinsic to how managers go about making sense of their worlds. Similarly, although across a wider scope of managers and organisations, McKinnon and Bruns (1992) investigated how a variety of production, sales and finance managers used accounting and other information in their work. The resulting confluence of information that managers developed from many different sources they referred to as an “information mosaic”.

In addition to the rich empirical findings, what is particularly illuminating about these studies is that rather than assume particular roles for accounting information, they sought to investigate *if* a role exists and what it might be. Simon et al. (1954: 22) examined the “use (or non-use) of accounting data by operating executives and supervisors”. Preston (1986, 522), beginning with a focus on the use of a computerised production information system, broadened his inquiry to investigate “how the managers informed themselves and each other”. McKinnon and Bruns (1992: 2) asked “under what circumstances *is* information that we think of as accounting information actually used by managers?” (*italics in original*). The phrases “or non-use”, “how”, and “actually used” demonstrate that the researchers at least considered the possibility that managers



may not use accounting information, that its role may be limited, or that new roles and possibilities for accounting information may emerge. In these studies there are few assumptions regarding the ways in which managers use accounting information; the studies themselves are an attempt to find out what these roles, if any, may be. All three studies also examine in considerable detail how managers engaged with accounting information as part of a process involving other sources of information, other managers, and the wider organisational context. The studies were not solely concerned with how accounting information was used for decision making purposes, nor were they focused only on how accounting information was implicated in wider organisational processes. These three studies show how managers draw upon a range of different resources, such as accounting information, other sources of information, and interactions with other managers, to perform their complex and demanding work.

The objective of this paper is to examine, and encourage further research to examine, how and why managers use accounting information. Although insightful, collectively, prior studies of what managers actually do with accounting information lack integration and conceptual clarity such that common themes and issues have not been developed. Drawing on prior research, I develop a series of propositions focused on three primary insights into how and why managers use accounting information in their work. First, managers primarily use accounting information to develop knowledge of their work environment rather than as an input into specific decision making scenarios. In this role, accounting information can help managers to develop knowledge to prepare for unknown future decisions and activities (March, 1986; Preston, 1986). Importantly, in a knowledge development role, rather than complex and sophisticated reports and analyses, managers require accounting information that is easily understandable and provides a common-sense story of organisational performance. Second, as accounting information is just one part of the wider information set that managers use to perform their work (McKinnon & Bruns, 1992; Preston, 1986), it is imperative to consider its strengths and weaknesses not in isolation but relative to other sources of information at a manager's disposal. In particular, and in contrast to traditional criticisms of



accounting, the strengths of accounting information relate to its aggregation properties and its role as a common, financial language to facilitate communication among managers. Third, managers interact with information and other managers utilising primarily verbal forms of communication (Kotter, 1982; McKinnon & Bruns, 1992; Preston, 1986; Jonsson, 1998; Ahrens, 1997). As such, it is primarily through talk rather than through written reports that accounting information becomes implicated in managerial work. In particular, verbal forms of communication allow managers to tailor accounting information to specific operational concerns, and provide a context to debate and discuss the meanings and implications of accounting data. Accounting information can also prompt discussions by signalling the need to investigate an issue further. Overall, incorporation of findings regarding how managers actually work has important implications for their use of accounting information, and, in particular, requires reconsideration of the types accounting information that managers find, or could find, helpful.

This perspective on accounting information and managerial work also has implications for research methods. Most generally, there is a need for research to examine the specific activities through which managers engage with accounting information in their work. To achieve this, existing experimental and field-based approaches can fruitfully be adapted. In the context of experiments, a process-based approach (Vygotsky, 1978; Swieringa & Weick, 1982) can be used to focus more directly on how managers engage with accounting information in performing particular activities. In the context of field studies, a stronger focus on examining the micro-practices (Hutchins, 1995; Alac & Hutchins, 2004) involved in managers' use of accounting information can improve our understanding of how managers engage with accounting information in their work.

The remainder of the paper is structured in five sections. Section 1 examines the role of accounting information in developing knowledge of the work environment. Section 2 considers accounting information as part of a manager's wider information set. Section 3 explores the relation between accounting information and forms of communication. Each of these three sections analyses



the results from prior research and concludes with a set of propositions. Section 4 outlines the implications for research methods. Section 5 concludes the paper.

1. The role of accounting information in developing knowledge of the work environment

Prior research on the role of accounting information in developing knowledge has primarily focused on how it serves as an information input into specific decisions. In the decision-facilitating role, accounting information, in the form of periodic reports or special analyses, is a source of information for making decisions (Sprinkle, 2003; Horngren et al., 2005).¹ Sprinkle (2003) concludes that the provision of accounting information for decision-facilitating purposes and the characteristics of that information have been found to improve individuals' knowledge and their ability to make better decisions. However, a focus on how managers use accounting information to make specific decisions in well-defined contexts is restrictive as it limits consideration of other potentially much more important ways that managers use accounting information in their work.

Although managers do make decisions, and many of these are undoubtedly important, empirical investigations of what managers actually do show that such activities are only a relatively small part of managerial work and sometimes not that critical (for example, see Mintzberg, 1973; Kotter, 1982; Hales, 1986; Hales, 1999; Stewart, 1988). Much managerial work involves responding to the unusual, the ad hoc, and the unplanned, where problem boundaries are typically hazy and unstable (Hales, 1999; Kotter, 1982; Hanaway, 1989). Furthermore, the varied nature of much managerial work means that managers typically do not deal with one or two problems; rather, they deal with portfolios of problems, where it is unclear how problems are related or how small problems may relate to or be indicative of something more serious (Isenberg, 1984; Hanaway, 1989). In this way, a critical task for managers is to deal with problems that involve turbulence, doubt, uncertainty, and the potential for significant error (Landau & Stout, 1979). In this context,

¹ See Sprinkle (2003), Luft and Shields (2003) and Birnberg, Luft and Shields (2007) for reviews of the use of accounting information in decision-making.



managers use information to develop knowledge of their work environment more generally, that is, beyond specific decision-making situations. Managers often use past experiences and prior knowledge to develop appropriate responses, make decisions and take actions (Dane & Pratt, 2007). As such, most of the information that managers gather is not for decision-making purposes but is used to develop a context of knowledge and meaning for unknown possible future actions (March, 1986; Feldman & March, 1981; Preston, 1986; McKinnon & Bruns, 1992; Simon et al. 1954). In this process, the significance of information gathering is as an investment in an inventory of knowledge, not as an input into a specific decision-making scenario (March, 1986).

The process of developing knowledge of the work environment involves a variety of specific activities. For example, to develop knowledge, managers test and scrutinize their assumptions and expectations about the organization, its operations and competitive environment (Mintzberg, 1973; Senge, 1990; Vandenbosch & Higgins, 1995), identify and define problems and opportunities (Mintzberg, 1973; Vandenbosch & Huff, 1997; Vandenbosch, 1999; Simons, 1990), and monitor the environment for surprises, or reassurances there are none, where surprises may be new alternatives, preferences, or significant changes (Feldman & March, 1981; Preston, 1986). These activities are reflective of a more general process whereby managers ensure they are up-to-date and informed about significant events and occurrences that relate to their work environment (Simon et al. 1954; Preston, 1986).

Accounting, as a key source of information about business performance, can help managers to develop knowledge of the work environment in several ways: to make visible those activities not visible through a manager's daily activities; and to provide an overall quantitative perspective on their work. Accounting information can make visible those problems that are not visible from day-to-day activities and can provide an independent check on operations to help managers "know what is going on" (Simon et al., 1954: 28). Van der Veecken and Wouters (2002) found that budgeted versus actual cost information was crucial for senior managers in managing projects as these managers were responsible for many projects and used up-to-date information on allowable versus



actual costs to develop knowledge about which projects were causing problems. Accounting information also helps to ‘smooth out’ the multitude of organisational activities, which enables managers to determine the meaning and significance of all the frenetic day-to-day management activity (McKinnon & Bruns, 1992; Preston, 1986). Simon et al. (1954: 28) noted that the “significance of....(accounting) reports lies in their *reminding* the operating executives of things they already know, and placing those things in proper quantitative perspective, rather than hinting to them things they never suspected” (italics in original). In this role, accounting information can provide an overall assessment of the trends and the net effect of all kinds of disturbances and actions that have taken place (Preston, 1986; van der Veeken & Wouters, 2002).

Three factors influence the usefulness of accounting information for developing knowledge of the work environment: ‘closeness’ to operational activities, time horizon, and diversity of operational factors under consideration. Managers who are close to operations use observations of physical processes and informal reports from subordinates and peers as their primary means of developing knowledge of the work environment (Simon et al., 1954, Preston, 1986). For example, van der Veeken and Wouters (2002) reported that operating managers found little use for accounting data on budgeted versus actual project costs, but obtained information from observation of project activities and a few key non-financial metrics. Managers with little contact with operations, however, devote considerable attention to accounting reports as they have limited opportunities for picking up information from actual observations of work being conducted (Simon et al., 1954; McKinnon & Bruns, 1992). For day-to-day concerns, developing knowledge is facilitated most efficiently by non-financial numbers as they relate more directly to operational activities, and, importantly, are usually available immediately without delay (McKinnon & Bruns, 1992). In contrast, events and transactions take too long to go through the formal accounting reporting system for the output to be actionable. For example, McKinnon and Bruns (1992) found that financial numbers were not used in any of the 12 organizations they studied as a key daily production indicator: all managers used non-financial numbers. Furthermore, the aggregations



required for the production of financial numbers can obscure details that are important for understanding day-to-day problems. For example, an injury to an employee becomes aggregated with other costs and is thus obscured from the manager's view (McKinnon & Bruns, 1992). As the time horizon lengthens, however, financial information becomes much more important in providing overall measures of effectiveness and in highlighting key problem areas that require further investigation (Simon et al., 1954; McKinnon & Bruns, 1992; Preston, 1986). When managers have only a few operational factors to consider, non-financial measures and direct observation of processes can provide adequate information. However, as managers consider a more diverse range of operational factors, financial information can operate to translate these factors into a single, financial dimension, which allows for an overall assessment of the net effect of all kinds of disturbances and actions that have taken place (van der Veecken & Wouters, 2002).

Research has also considered the properties of accounting information that are likely to help managers to develop knowledge of their work environment. One approach to increasing the role of accounting in knowledge development activities is to increase its sophistication and complexity. Techniques such as the balanced scorecard (Kaplan & Norton, 1996), causal performance maps (Abernethy, Horne, Lillis, Malina & Selto, 2005), performance pyramids (Lynch & Cross, 1992), and activity-based costing (Kaplan & Cooper, 1998) provide more elaborate, detailed and comprehensive data. These systems attempt to make accounting information a more complete and more relevant description of underlying organizational activities. In contrast to these developments, however, research shows that accounting information does not need to be elegant, complete or accurate to be useful for developing knowledge.

Malina, Norreklit and Selto (2007) show that the ability of a performance measurement system to communicate a common sense and credible story of business operations is far more important than the creation of a statistically-valid predictive business model. Rowe, Birnberg and Shields (2008a) report that technical jargon and complexity of accounting information limited managers' ability to identify the economic effects of competing initiatives. In another study, Osborn



(1998) finds that the use of simplified accounting information (i.e., information structured around key issues and categories) prompted productive discussion among managers and more time being devoted to building shared interpretations of results. As one manager stated: “I use the [system] as a way to frame the business. We need to add structure to the data that we’re reporting: we need *actionable data*, data that leads us to *do* something. We need to help people identify hot spots.” (Osborn, 1998: 495-496, italics in original). Furthermore, information needs to be easily comprehended by managers such that they have confidence in their understanding of the underlying data (McKinnon & Bruns, 1992; Simons, 1995; Preston, 1986). Such confidence is likely to prove increasingly difficult in settings where the complexity of accounting information increases but managers have little time to spend on understanding it. For example, Ittner and Larcker (2003) note the difficulties and problems managers’ face in understanding and linking non-financial measures to each other and to financial measures in the context of complex performance measurement systems.

These findings are consistent with the expectation that the process of developing knowledge of the work environment is promoted by managers engaging with simpler information that challenges existing points of view (Gilkey & Kilts, 2007). Complex accounting systems can reduce or camouflage the very uncertainties that managers need to be aware of and can eliminate the ability to detect and correct error (Earl & Hopwood, 1980; Landau & Stout, 1979). For example, in the context of variance analysis, Emsley (2001: 34) finds that managers do not prefer detailed variances but a summary of key problems ranked by importance: “instead of all these variances all I want is a list of the top ten biggest problems to have occurred in the factory through the month.” In the performance measurement context, Hall (2008b) finds that more comprehensive performance measurement systems reinforce managers’ existing points of view and do not play a role in challenging and developing new ways of thinking.

Research also indicates that developing knowledge of the work environment is likely to be facilitated by information that focuses on stimuli as a whole rather than information that attempts to deliberately decipher cause and effects (Dane & Pratt, 2007; Reber, 1976). Rather than trying to



formalise relations via cause-and-effect chains,² developing knowledge of the work environment is likely to be facilitated by highlighting key events and outcomes, with managers developing their own connections and interpretations. For example, McKinnon and Bruns (1992) found that the process of recalling the events and activities that occurred during the period of time covered by an accounting report, and then seeing their success as reported by accounting information, allowed managers to associate events and activities with a level of financial performance. This process provided information about linkages between physical events and financial outcomes that managers could use to update their knowledge of operations. Importantly, managers used their own experiences to develop knowledge that linked events and outcomes and did not require accounting information that made these connections explicit. This is consistent with arguments that formal techniques and procedures can inhibit the operation of individuals more intuitive and ‘natural’ synthesizing processes (Raiffa, 1968; Dane & Pratt, 2007; Gigerenzer, 2008).

This analysis indicates that rather than focus on the development of forms of more complex, complete and sophisticated accounting information, what is required is a different kind of sophistication, one that links more closely with the types of information that will aid managers in developing knowledge of the work environment. This discussion is formalised in the following propositions:

Proposition 1: Accounting information is used by managers to develop knowledge of their work environment. This involves using accounting information to test assumptions and expectations about the organization’s operations, and to identify problems, opportunities and potential surprises.

Proposition 1a: Accounting information is more (less) helpful for knowledge development when a manager is further removed from (closer to) operational activities, the time horizon of the issue under consideration is longer (shorter), and the number of operational factors to consider is larger (smaller).

Proposition 1b: Accounting information is more (less) likely to facilitate managers’ knowledge development when it highlights (doesn’t highlight) the outcomes of key events, is structured (not structured) around issues of managerial importance, is free of (contains) jargon, and does not (does) decipher cause and effect relations.

² Whether this is even possible and/or desirable is the subject of much debate in the research literature (Norreklit, 2003; Ittner & Larcker, 2003; Malina et al., 2007).



2. Accounting information as one part of a manager's information set

This section analyses the role of accounting information as just one part of a manager's information set, and, in particular, considers the strengths of accounting information vis-à-vis other information at a manager's disposal. Strengths of accounting information include its aggregation properties and its role as a common language to facilitate communication among managers with different backgrounds, experience and knowledge.

For managers who are engaged in a variety of tasks in complex social and organisational contexts, information needs are diverse and encompass a wide range of information from various sources, both internal and external to the organization. Managers use not just accounting information but information from other specialists, information on market, industry and economic conditions, as well as direct observation and informal reports (see, for example, Kotter, 1982; Hanaway, 1989; McKinnon & Bruns, 1992; Preston, 1986). In contrast, much management accounting research tends to focus on how managers use accounting information only and devotes little attention to other types of information that managers use (McKinnon & Bruns, 1992). However, the sheer variety of tasks that managers engage with, and the rapid, fragmentary and disjointed way in which they are conducted, necessitates engaging with an extensive amount of information from a wide variety of sources.

McKinnon and Bruns (1992) found that managers use a vast array of information in performing their jobs, ranging from facts and forecasts to gossip, intuition and 'gut feel'. Although managers described accounting information as indispensable, it formed only one small part of the information they used. Other information besides accounting, particularly observation of physical flows and reports of events and activities from subordinates and peers (informal reports), were available for managers to consider, evaluate and act on often before they were observed by the accounting process. Similarly, Simon et al. (1954) noted the existence of unofficial reports kept by operating executives, sometimes termed "black books". They were used constantly by operating



managers and contained some accounting figures, but consisted mainly of numbers from production reports and other physical data, notes, memos and informal notations. Managers also develop vast networks of contacts, both within and outside the organisation, which includes subordinates, peers, outsiders, bosses' bosses, subordinates' subordinates, customers, bankers and the press (Kotter, 1982; Whiteley, 1985; Hanaway, 1989).

Managers rely on multiple information sources to corroborate the different types of information that they use. For example, McKinnon and Bruns (1992) noted how a sales manager may see corroboration in the number of orders received, call reports, competitive prices, inventory levels, and economic news. Similarly, Hopwood (1972) notes how profit conscious managers probe into the significance and meaning of accounting data, supplementing them with many other sources of information, both formal and informal, which allows for a continued test of the validity of the accounting data. The use of corroborating information is not restricted to those managers concerned with operations; even financial managers seek to corroborate accounting information: "I get information about production directly from them, but also from cost accounting. Much of the production data is not accounting data. There are other metrics like on-time delivery to customers, how many vendor schedule changes we have. There are a lot of different metrics we use to assure we have good inventory integrity" (McKinnon & Bruns, 1992: 201).

This analysis highlights the wide variety of information that managers engage with in conducting their work activities, of which accounting information is a small but sometimes important part. "Accounting, in other words, is part of a wider whole" (Hopwood, 2007: 1367). The positioning of accounting information within a wider information set helps to develop a more critical understanding of its relative strengths. In particular, the aggregation process inherent in the accounting system serves to provide information to managers not generally available from other sources. Because the accounting process assigns financial numbers to a diversity of operational factors, they can be combined and thus compared through a process of aggregation. In this way we see how accounting information is useful in developing knowledge of the work environment by



helping managers to identify what all the frenetic operational activities add up to and by assessing trade-offs among different factors (Simon et al., 1954; van der Veecken & Wouters, 2002; Wouters & Verdaasdonk, 2002). Other information available to managers, such as informal reports and even non-financial information, generally do not have these properties as they are not expressed using the same basis of measurement and thus are not easily combined and compared. In particular, linking non-financial measures to each other and to financial measures is problematic (Ittner & Larcker, 2003). As such, although aggregation may limit the usefulness of accounting information for some roles, it can help rather than hinder the conduct of particular aspects of managerial work.³

The translation of operational activities into financial numbers also serves another function: to act as a common language with which managers can communicate. As a common language, accounting information can be used as an anchor to frame discussions amongst managers (Simons, 1990; Ahrens & Chapman, 2007). Accounting information can play a key role in consensus building by constructing a common set of information to facilitate communication (Rowe et al., 2008b). This is critical as structuring and framing of issues in a common language helps to produce meaning (Tversky & Kahneman, 1981; Simons, 1990). If information is not uniformly framed, common interpretations are unlikely (Chenhall, 2005), and managers may thus find it more difficult to communicate with each other. Consistent with this, Rowe et al. (2008a) find that the use of a new accounting model based on a simplified accounting language, rather than technical accounting jargon and codes, helped managers in a cross-functional team to communicate with each other and to debate cost issues amongst themselves.⁴

³ There are limits to this role as not all operational factors are amenable to expression in financial terms (Galbraith, 1973; Chapman, 1997). For example, Simons (1995) shows how some strategic uncertainties are best addressed using accounting-based information systems (e.g., profit planning systems to frame discussions about how changes in products and markets are likely to affect future profits) whereas others are not (e.g., intelligence systems to collect information about social, political and technical environments). See Simons (1991; 1995) and Chapman (1997) for further discussion.

⁴ This has important implications for target costing practices which typically involve a variety of managers from different functional areas. In this setting, complex costing models, like sophisticated activity-based costing, may be damaging as non-accounting team members are unlikely to have the necessary expertise to converse confidently using such information. As Rowe et al. (2008a) find, what is required is relatively simplified cost information that forms a basis for discussion around cost reduction initiatives.



This indicates that the use of accounting information depends not necessarily on its ability to depict operational processes accurately or completely, but on its functioning as a medium through which seemingly diverse operational considerations are rendered communicable through a common language. In this way, an accounting language can function as a medium to facilitate communication among managers with different information requirements, backgrounds and functional experience. Using accounting as a common language is likely to be particularly important in organisations where managers who work together have diverse educational backgrounds and/or in multinational organisations where managers are from different cultures. Furthermore, an accounting language is likely to be very important in settings where managers need to communicate extensively across functional boundaries, for example, research and development managers liaising with marketing managers. Here, accounting information can be used to create common categories for ordering and framing the discussions that take place between managers from different functional groups (for further elaboration, see, for example, Bowker & Star (1999); Power (2004); Espeland & Sauder (2007) and Millo & Mackenzie (2009)). An accounting language is also likely to be increasingly important in communicating with managers outside the organization as new forms of inter-organisational relationships become more prevalent (e.g., Dekker, 2004).

Overall, this analysis indicates that understanding the role of accounting in managerial work requires the positioning of accounting information as one part of a manager's information set. Such an approach can facilitate understanding of how accounting information interacts with other sources of information, and, in particular, the strengths of accounting information relative to other information at a manager's disposal. This can lead to questioning of the need to develop more complex accounting information in the context of an information set that may already adequately provide such information from other sources. A more fruitful approach is to focus on the strengths of accounting information, such as its aggregation properties and role as a common language. This analysis leads to the following propositions:



Proposition 2: As accounting information is just one part of a manager's information set (including direct observations, informal reports, industry/market/economic data, other specialist information), its strengths and weaknesses are determined not in isolation but relative to other sources of information at a manager's disposal.

Proposition 2a: The primary advantage of accounting information vis-à-vis other information is its ability to translate operational factors into a single, financial dimension. A single, financial dimension allows managers to compare operational factors and provides a common language to facilitate managerial discussions.

Proposition 2b: A single, financial dimension is more (less) helpful when the diversity of operational factors is high (low), when managers' functional, educational and/or cultural backgrounds are more (less) diverse, and when the extent of communication across functional borders is high (low).

3. Accounting information and forms of communication

In addition to consideration of a wider information set, understanding the role of accounting information in managerial work requires an appreciation of the forms of communication that managers use when engaging with accounting information. This section examines how managers' preference for verbal communications affects the use of accounting information in managerial work. In particular, verbal communication allows managers to tailor accounting information to specific operational concerns, and provides a context to debate and discuss the meanings and implications of accounting data. Furthermore, accounting information can also prompt managerial discussions that take place.

Managers have a strong preference for verbal communication, preferring contacts with people in meetings, informal discussions, and via the telephone (Kotter, 1982; Hales, 1986; Hanaway, 1989; McKinnon & Bruns, 1992; Preston, 1986). Managers use these verbal contacts to easily bypass formal organisation charts and seek information from those people who have it, rather than wait for information to arrive from formal channels (McKinnon & Bruns, 1992; Preston, 1986). As such, most of a manager's time is spent with other people, with verbal communications – either in-person or by telephone – dominating all other kinds (McKinnon & Bruns, 1992).



Despite the importance of verbal communications in managerial work, the focus of much research typically concerns the design and dissemination of the “products” of accounting systems; namely written documentation in the form of reports and analyses. In particular, efforts to make accounting information more relevant for managerial work usually focus on improving its content, for example, non-financial performance measures, balanced scorecards, performance pyramids, and activity-based costing systems (for example, Fisher, 1995, Lynch & Cross, 1992, Kaplan & Cooper, 1998; Kaplan & Norton, 1996, Ittner & Larcker, 2003). Other research examines how the usefulness of accounting information is related to how it is organised and displayed (for example, Lipe & Salterio, 2002; Cardinaels, 2008). Although important, a sole focus on accounting information in written form limits consideration of how managers actually use accounting information in performing their work. In particular, the relevance of accounting information is not solely a function of its information characteristics and/or how it is organised/displayed, but is highly dependent on whether and how managers use accounting information in verbal communications.

For example, McKinnon and Bruns (1992) found that information discussed in verbal communications is not limited to gossip, intuition or qualitative items; rather, most numerical data appeared to be passed by word of mouth *first*, with formal reports serving to corroborate or remind managers of what was transmitted orally. This relates to research that highlights the importance of ‘accounting talk’, whereby accounting information becomes implicated in managerial work primarily through verbal communications rather than through reports (Ahrens, 1997; Jonsson & Solli, 1994). In particular, verbal communication of accounting information is not just an exchange of information but a process through which accounting information is related to specific managerial problems or issues (Ahrens, 1997). Thus, even if the content of accounting information is not specifically relevant for a manager’s work, verbal discussions can facilitate the tailoring of accounting information to address issues that managers deem important. In this way, managers work with accounting information to make it relevant, rather than its relevance being determined solely by its content. This is consistent with research showing that managers construct meaning



from information for themselves and are not mere processors of information from reports (e.g., Dent, 1991; Ahrens, 1997; Chapman, 1998; Jonsson, 1998). Echoing the findings from many studies, Boland (1993, 135) concludes that “the reader of the accounting report is in no sense an uninvolved, passive recipient of a clear and obvious message that the report is supposed to carry...they take individual responsibility for reshaping the raw data in the text and reclaiming from it a set of the truly important data.” Hence, it is not primarily the design of accounting that determines its relevance, but how managers actually interpret and use such information, often in verbal communications.

Verbal communication of accounting information also provides opportunities for managers to obtain more tacit forms of information. Managers often value information that is speculative and informal (tacit) rather than information that is authoritative and formal (explicit) (Mintzberg, 1973; Hales, 1986; Turner & Makhija, 2006). Although accounting information in the form of reports and analyses is likely to be explicit, verbal communications around the meaning and implications of accounting information can facilitate the exchange of more tacit forms of information, and provide a context within which to debate and discuss the meanings and implications of accounting data. In this way, verbal communication of accounting information can enable more tacit information exchange and potentially make it much more relevant to managerial work. Importantly, managers involved in tasks comprising innovative problem solving and unexpected outcomes tend to rely on interpersonal communication and intensive forms of information exchange, with little emphasis on the codification of knowledge via formal reports (Ditillo, 2004).

The role of accounting information in verbal communications is not limited to the exchange of information, however. More fundamentally, when mobilised as part of an organisational system, accounting information can prompt discussions by signalling that something must be looked into more carefully (Simons, 1995; Mintzberg, 1975; Simon et al. 1954). Ahrens and Chapman (2007) show how accounting information was used to identify areas of off-standard performance and to prompt discussions between managers about potential actions and solutions. For example, a below-



average food margin prompted questioning from the area manager as to its potential causes, which initiated a discussion centring on several likely explanations, such as burnt steaks or over-portioning of dishes. Simon et al. (1954) describe how a production manager frequently and regularly commented on a monthly variance report and required explanations of variances from a factory manager. Not only did the factory managers seek to provide these explanations in discussions with superiors, but he was using the same practice with his department heads, and the department heads with their foreman. In these situations, accounting information prompts discussions primarily through the design of the accounting information itself, i.e., the accounting information reports a deviation (such as a below average food margin), which then prompts investigation and discussion. More recently, Simons (1995) outlined how interactive control systems prompt discussions among managers where information from formal systems provides the basis for debates over underlying data, assumptions and action plans.⁵ Here, accounting information prompts discussion primarily through managers interpreting accounting information and then initiating discussions about issues they deem important (even in the absence of specific deviations). Overall, this analysis shows how accounting information is not merely exchanged verbally but can serve a more fundamental role in prompting discussions that take place.

Whilst a stronger focus on the communication of accounting information in verbal forms is warranted, this should not occur in isolation from other forms of communication. What is particularly interesting is whether and how verbal and written forms of accounting information act as substitutes or complements. Prior research provides little insight into whether accounting information communicated verbally is the same or different from accounting information that is communicated in written form. Whilst research is limited, it appears that verbal communication is suited to more tacit, speculative, and specific forms of accounting information, whereas written

⁵ Most attention in the accounting literature, however, has focused on the organisational-level effects from the interactive use of particular accounting systems, such as budgets and performance measurement systems (Abernethy and Brownell, 1999; Bisbe and Otley, 2004; Henri, 2006). This research has predominately used the descriptions and characteristics of interactive control systems as described by Simons to develop items for questionnaires (Bisbe, Batista-Foguet and Chenhall, 2007), rather than investigate the nature of the interactive control process itself. Thus, knowledge of the way in which accounting information is used to prompt discussions as part of an interactive control system is limited.



communication is more suited to explicit, formalised and aggregate forms of accounting information (see Daft & Lengel, 1984). It is also unclear whether there exists much overlap and redundancy in the accounting information communicated in verbal and written forms. Verbal and written forms of accounting information have the potential to reinforce each other and thus act as complements. In particular, prior research indicates that managers value some information redundancy as it serves to remind managers of previous information and also builds confidence in the information through a process of corroboration (McKinnon & Bruns, 1992; Simon et al., 1954; Preston, 1986).

This analysis indicates that managers' preference for verbal exchanges of information can affect the use of accounting information in managerial work. In contrast to written reports and analyses, verbal communication allows managers to relate accounting information to specific operational concerns and to discuss and debate the meaning and implications of accounting data. Furthermore, accounting information can prompt the discussions that managers have with each other. This leads to the following propositions:

Proposition 3: The relevance of accounting information for managerial work is determined primarily by how managers use and interpret accounting information in verbal communications and discussions.

Proposition 3a: Managers use verbal forms of communication to relate accounting information to specific operational concerns and to discuss and debate the meanings and implications of accounting data.

Proposition 3b: Accounting information can prompt verbal discussions by signalling that an issue must be investigated further.



This analysis shows how the nature of managerial work has important implications for the way in which managers engage with accounting information. In particular, managers are likely to acquire information for purposes other than solving specific problems, source information from a wide information set, and use mainly verbal forms of communication. This indicates different and potentially more important roles for accounting information in managerial work that move beyond the use of written analyses and reports to solve specific problems. Drawing on prior research I outlined a series of propositions directed towards increasing understanding of how and why managers use accounting information.⁶ First, future research can examine how managers use accounting information to develop knowledge of their work environment. Second, as managers' use of accounting information takes place within a wider information set, future research can focus on the role of accounting information relative to the other sources of information at a manager's disposal. Third, as managers favour and use mainly verbal forms of communication, there is a need to examine how accounting information is used in managerial work through verbal communications. In the next section I outline the implications of this analysis for research methods.

4. Finding out how managers use accounting information

Existing experimental and field-based methods can be fruitfully adapted to examine how managers use accounting information. Overall, I argue for a stronger focus on the detailed activities through which managers engage with accounting information. In the context of experiments, a process-focus can be used to examine how participants engage with accounting information in performing their work. In the context of field studies, a stronger focus on micro-practices can be used to examine the specific activities in which managers engage with accounting information in interaction with other information and other managers.

⁶ These propositions will require further articulation and adaptation to the specific research design employed in a study.



4.1 Process-based experimental studies

Given their research focus, many experimental studies are designed to examine how variable X (e.g., an ABC report) is causally related to variable Y (e.g., cost-related judgement performance) (Cardinaels, 2008). Although important in these contexts, such an approach is not amenable for understanding how accounting information is implicated in the demanding, confusing, and unstructured situations that characterise much managerial work. In particular, rather than serve as an input into a pre-defined decision-making context, managers engage with accounting information to construct their own interpretations, drawing on their experience, prior knowledge, other sources of information and discussions with other managers. This is a dynamic process in which the underlying accounting information itself can be transformed, thus creating further possibilities for action (Burchell et al., 1980; Hopwood, 1978). Within this perspective, experimental approaches that focus on relating variable X to variable Y are not helpful for examining how managers engage with accounting information in performing their work. As such, I argue that process-based experimental studies have much to offer to the analysis of how managers engage with accounting information in their work.

Process-based experiments are concerned with analysing the processes that individuals engage in as they conduct particular activities (Vygotsky, 1978; Daniels et al., 2007; Swieringa & Weick, 1982). The critical object of analysis is not the output that individuals produce but the methods, processes and activities that participants engage in when conducting tasks. The experimental setting is used to provide a context for investigation where the researcher manipulates its structure to examine how participants develop their own processes and analyses (Engestrom, 2007). The focus is “not on the product of development but on the very process by which higher forms (of development) are established” (Vygotsky, 1978: 64).

Two examples illustrate the difference between a process-based approach and that adopted in much management accounting research. First, in many experimental designs participants



complete a pre-trial run to enhance validity. In contrast, a process-based approach views the pre-trial phase as critical in its own right as it is at this moment that researchers can observe and analyse how participants engage in the task while they are still learning it – after the pre-trial phase behaviour becomes fossilised and opportunities for examining how participants struggle with new tasks and new information is limited (Vygotsky, 1978). In this way, the pre-trial phase provides opportunities for examining how managers engage with accounting information in the more unstructured, uncertain moments that characterise much managerial work. Second, descriptions and explanations from participants about how they arrived at particular decisions are likely to be very valuable in understanding how managers use accounting information. However, although prior research does acknowledge the ability of experiments to report on the processes involved in arriving at decisions (Sprinkle, 2003: 289), rarely is this empirical material actually analysed. For example, Vera-Munoz et al. (2007) collected data on participants' supporting calculations and rationales for their recommendations, but the empirical analysis is focused solely on the actual budget allocation suggested by participants. Similarly, Coletti et al. (2005) required participants to write an essay describing the reasoning behind their resource allocation decisions, but this data was used by other participants to determine a 'trustworthiness' score rather than as useful empirical material in its own right. In contrast, Boland (1993) used participants' written explanations for their performance evaluation decisions as a way to understand how managers interpreted accounting reports. The primary interest was not participants' choices regarding whether to promote manager East or manager West, but how they used accounting reports to arrive at their judgements. From this analysis Boland (1993) generated significant insight into how participants use accounting reports to make performance evaluation judgements.

Overall, a process-based experimental approach could prove fruitful in systematising observations (Swieringa & Weick, 1982; Hogarth, 1982) of how managers go about using accounting information in their work. I outline three specific examples. First, to understand how managers use different forms of information, existing experiments could be adapted by providing



participants with different types of information in addition to accounting information. For example, the Cardinaels (2008) study could be adapted by providing participants with other forms of information beyond the ABC report, such as: a marketing report about sales trends in the specific market segment, macroeconomic information, an informal report from a subordinate about relations with the three major customers, an email exchange from a contact who works in a similar organisation and has dealt with the three customers, production information showing excessive downtime on a manufacturing line used to produce one of the products, and the manager's personal notebook of information. Participants are required to complete the specific task but the focus is not on how decisions vary between experimental conditions but on examining how participants use different types of information to arrive at their decisions. In contrast, existing studies are typically concerned with the effects of the presence/absence of accounting information or differences in its form/presentation, in settings where no other information is provided. The approach described here allows the researcher to examine how participants use accounting information in the presence of other sources of information. For example, participants may ignore the accounting information, or make the same decision regardless of its presence/absence.

Second, as knowledge of how managers use accounting information in verbal communications is limited, researchers could construct settings involving several managers in discussions about particular operational and/or strategic issues facing an organisation. In particular, in the 'interactive' control context, a participant can act as the senior manager who 'intervenes in the decision activities of subordinates' and other participants can act as the operating subordinates who 'explain and justify their data, assumptions and action plans' (Simons, 1990). Simons's case studies and/or teaching cases could be used to develop the specific experimental settings.⁷ The researcher can observe and analyse in detail the interpersonal dynamics involved in this process and how participants use various types of information, including accounting, in their discussions and explanations.

⁷ In particular, see Simons (1995) and the Harvard Business School teaching cases: 'Codman Shurtleff, Inc' (9-187-081) and 'ATH Micro Technologies' (9-108-091).



Third, to understand how managers use accounting information to identify problems, researchers could develop a simulation where groups of participants are managers at a hypothetical organisation. As part of the simulation managers arrive at ‘work’ and are confronted with a variety of issues that may or may not require their attention and action, for example, a poor performing employee, possible decline of a line of credit from a financial institution, a looming industrial strike, a possible plant closure, problems with a major supplier, etc (see Lombardo & McCall, 1982, for further examples). Although building simulations is difficult, time consuming and risky (Swieringa & Weick, 1982), some simulations already exist that could provide models for development.⁸ In this context, the researcher can observe how problems are recognised or ignored, the process of problem definition, and the way in which managers search for and integrate accounting and other sources of information (Swieringa & Weick, 1982; Hogarth, 1982). Simulations can focus on how managers use accounting information in chaotic, confusing and time-pressured environments, where the objective of the task is to develop knowledge about a potential problem rather than solve an already-constructed problem.

In all three situations the empirical material could be obtained in many ways: direct observation by the researcher as participants perform the task(s), audio/video recording of conversations/explanations, written materials used during task performance, pre- and post-experimental questionnaires, post-experimental explanatory statements, as well as specific decisions. Overall, adopting a process approach to experimental studies offers much promise for developing knowledge about how and why managers use accounting information.

⁸ For example: ‘Looking Glass, Inc’ from the Centre for Creative Leadership (www.ccl.org/leadership/programs/LGEOverview.aspx, Lombardo & McCall, 1982), the ‘Treasury Dealing Room’ from Monash University (www.buseco.monash.edu.au/aaf/research/tdr/, Lambert et al., 2008), and Harvard Business School’s online case simulations, e.g., ‘Beer Game’ and ‘Back Bay Battery’ (http://harvardbusinessonline.hbsp.harvard.edu/hbsp/course_materials.jsp?_requestid=64691).



4.2 *Micro-practices in field studies*

In contrast to the experimental approach, field studies seek to examine how individuals engage with accounting information in organisational settings. Although the field researcher has less control over participants, there is much greater potential for open-ended interaction between the researcher and participants and thus more opportunities to learn from unprompted actions that the researcher had not previously considered (Ahrens & Chapman, 2006). This advantage is evident in the studies of Simon et al. (1954), Preston (1986) and McKinnon and Bruns (1992) where the open-ended nature of the research questions allowed the researchers to provide new insights into whether and how managers used accounting information in their respective organisational settings. For example, Simon et al. (1954) did not enter their study with the intention of examining the scorekeeping, attention-directing and problem solving roles of accounting information; these roles emerged from their observation and analysis of how managers used accounting information in the field.

Field studies offer the primary advantage of being able to examine how managers use accounting information in culturally-constituted settings (see Ahrens & Dent, 1998 and Ahrens & Chapman, 2006 for overviews of field study methodology). However, much prior research has been directed more towards the macro analysis of organisational issues, with less focus on the micro-practices through which accounting information is used by managers in their work (Ahrens & Chapman, 2007). Studies that focus on organisational-level issues only are limited because they are typically based upon assumptions about, rather than a detailed investigation of, managerial work behaviour (Covaleski, Evans, Luft and Shields, 2003; Hall, 2008a). As such, what is less evident in these organisational accounts is an analysis of the detailed ways in which managers use accounting information to perform particular activities.

I argue that field studies could focus more strongly on examining the micro-practices involved in managers' use of accounting information. Micro-practices are those specific instances



in which managers use accounting information in their work. For example: what do managers do when they use accounting information to identify problems, surprises and opportunities? What do managers do when they integrate accounting and other forms of information? And what do managers do when they relate accounting information to specific operational concerns? These questions can best be answered by investigating those instances when managers actually do these things; by looking and seeing how these activities are actually conducted. A stronger focus on investigating micro-practices is also reflective of an increased interest in examining the actual use of calculative practices by actors at work (Vollmer, Mennicken & Preda, 2008).

An examination of micro-practices involves analysis of the specific activities that individuals engage in with on-going analysis of the overall context within which such activities take place (Hutchins, 1995; Alac & Hutchins, 2000; Lave, 1988). In this approach, the analysis of context provides the knowledge necessary to make meaningful and valid interpretations of micro-practices (Alac & Hutchins, 2004). For example, Jonsson (1998) examined the use of accounting information in an individual team meeting at a Swedish municipality. The understanding of the history and context of the municipality provided the necessary knowledge to interpret how managers in the team meeting used accounting information to perform their work. More generally, Alac and Hutchins (2004, 633) explain the rationale of this approach in their study of how scientists interpret scans from functional magnetic resonance imaging (fMRI):

In order to find out how scientists construct the meaning of complex fMRI images, we perform micro-analysis on digital video recordings of scientific practices. We use these recordings to identify and track the representations that the scientists bring into coordination with the images in the process of making the images meaningful. We use the findings from our long-term ethnography to provide warrants for our analytic judgments concerning how things and events are made relevant to one another in a small instance of scientific practice.

In the context of accounting information and managerial work, such an approach requires examination of the specific activities in which accounting information is used, other sources of information at managers' disposal, and the forms of communication through which accounting information is engaged - all of which are critical in increasing understanding of how managers use



accounting information in performing their work activities. In this approach, information about the organisational context and institutional environment plays a supporting role, i.e., it is necessary in order to understand and explain how and why managers use accounting information in particular ways. For example, Jonsson (1998) described the wide range of information collected about the Swedish municipality and its institutional environment, ranging from economic crises, organizational restructuring, external surveys, as well as interviews with managers. The study is not primarily concerned with this empirical material, however, but is focused on interpreting and making judgements about the practices observed at a specific meeting.⁹ Efforts to generate sufficient knowledge of the context are by no means trivial, and will likely require the researcher to not only understand the context but also to attempt to learn the practices themselves (Jorgensen & Messner, 2009). For example, to understand the actions of scientists, Alac and Hutchins (2004) required at least a basic knowledge of fMRI. The time and skill required for such an approach clearly presents challenges to researchers, but also opens up extensive opportunities for much closer and more direct examination of how managers use accounting information in their work.

Ethnographies of the activities of individual managers are likely to be particularly useful in examining how accounting information is used (or not used) by managers in performing their work. Ethnographies are important for two reasons: first, they allow the researcher to examine the full range of a manager's interactions with accounting information, other sources of information, and different forms of communication; and, second, they provide opportunities for investigating both the formal and informal interactions that comprise the ways in which managers use accounting information. For example, Preston (1986) found that managers kept informed primarily through informal interactions with other managers and through their own observations and personal records.

As part of the ethnography researchers can select specific practices for micro-analysis of how accounting information is used in managerial work. For example, within the context of a manager's ongoing effort to develop knowledge of the work environment, the researcher can

⁹ Of course, empirical material relating to wider organisational and institutional issues can be the primary focus in other, more macro-level analyses.



examine how an individual manager interprets specific accounting reports and other forms of information. This can help develop understanding of the relationship between different forms of information (complements or substitutes), the relative advantages of accounting information vis-à-vis other information, as well as knowledge of how managers actually use accounting information in performing their work. In this approach, knowledge of the managerial context obtained through in-depth analysis of managerial work provides the insight necessary to make meaningful interpretations of the micro practices.¹⁰

One difficulty in examining micro-practices in the field, however, is that activities do not necessarily take place in predictable locations. For example, managers may talk to each other in corridors, review accounting information whilst on the train, have telephone and email conversations, etc. In contrast, prior research on micro practices has examined activities that take place in relatively predictable locations, e.g., ship navigation (Hutchins, 1995) and interpreting MRI scans (Alac & Hutchins, 2004). One approach to overcome this difficulty is to focus on meetings as a specific setting in which it is very likely that accounting information is used. Meetings are at specific times/locations and often concern a variety of different purposes, thus affording the opportunity to examine how managers use accounting information in different ways. For example, how managers use accounting information in the following roles (meetings) could be examined: to communicate strategies and organisational performance (status meetings), to construct and solve problems (project meetings for specific decisions), and to inform and be informed about on-going activities (recurring team meetings). Jonsson and Macintosh's (1997, 384) approach to the analysis of a lean-production team meeting can serve as a model for developing this kind of micro-analysis. In this way, the researcher can use meetings as a relatively predictable location for conducting micro analysis. Furthermore, the researcher can analyse the interpersonal dynamics,

¹⁰ Further elaboration of the use of ethnographies in accounting research is found in Ahrens and Mollona (2007), Ahrens (2004, 1997), and Jonsson and Macintosh (1997). For application to the managerial setting, see, for example, Noordegraf and Stewart (2000), Reed (1989), Kotter (1982) and Hanaway (1989).



verbal exchanges of information, the incorporation of different types of information that take place.¹¹

5. Conclusion

In this paper I outlined an approach to the study of accounting information and managerial work that explicitly incorporates prior research on how managers work and how they use accounting and other forms of information. This approach focuses on the role of accounting information in developing managers' knowledge of the work environment, appreciation of how accounting information interacts with and relates to other information that managers use, and a stronger focus on the ways in which managers use accounting information in verbal communications and discussions. I examined the implications of this approach for the types of accounting information that managers find, or could find, helpful in their work, as well as consideration of how existing research methods could fruitfully be adapted to focus on the detailed activities through which managers engage with accounting information. Although few researchers have heeded Jonsson's (1998) call to action, this paucity of studies provides much scope for future research to develop our understanding of how and why managers use accounting information.

The first and most immediate implication of this approach is to broaden the scope of inquiry into what constitutes research on accounting information and managerial work. The approach requires explicit examination of different roles for accounting information in managerial work (e.g., developing knowledge of the work environment), of other forms of information and their interaction with accounting information, and of the variety of ways in which accounting information can be communicated, particularly through verbal discussions. Given criticisms that accounting research is too rigid and cautious (Hopwood, 2007), an expanded research focus is

¹¹ For examples of studies that use meetings as an empirical setting, see Boland and Pondy (1986) who examined weekly meetings of a high school district's administrative council, and Jonsson (1998) who examined a top management meeting of a city municipal district. For an overview of research on meetings in organizations, see Jarzabkowski and Seidl (2008).



important in encouraging investigations that consider the emergence of new roles and possibilities for accounting, as well as reconsideration of our existing conceptions of what accounting is and is used for. A broader scope of inquiry will require much greater engagement with on-going research in related fields, such as studies of how managers use information (e.g., Anderson, 2008), research that examines how information is communicated in organizations (e.g., Nelson, 2001), as well as studies of changes to the nature of managerial work itself (e.g., Tengblad, 2006). In addition to enriching our own research, a likely benefit of this engagement is increased interest in the outputs of accounting research from scholars in other disciplines whose research also seeks to understand how managers use information in organizations. As productive conversations between accounting and other researchers have been limited (e.g., Chenhall, 2008), increasing interest is important if accounting research and practice is to play a more influential role in management research and management more generally.

The second implication of this approach is to incorporate a much stronger relative perspective to the study of accounting information and managerial work. As argued earlier, much management accounting research tends to focus on how managers use accounting information only, whereas studies of what managers do show that they rely on a wide variety of information sources in their work. This has important implications for several fields of inquiry in management accounting research. For example, when we investigate how the use of accounting information is contingent upon different tasks, structures, cultures and environments (Chenhall, 2003), we should also examine how other sources of information affect the use of accounting information in managerial work. When we investigate reliance on accounting performance measures (Hartmann, 2000), we should examine how accounting and other sources of information are used to make performance evaluation judgements. And when we investigate the relationship between accounting information and strategy, we should examine how accounting and other types of accounts and rationalities are used by managers in strategising (e.g., Jorgensen & Messner, 2009). A stronger relative perspective provides researchers with the opportunity to develop theory that focuses more



directly on accounting's potentially unique role in managerial work in comparison to other sources of information in organisations. For example, I propose that the translation of operational activities into a single, financial dimension, in comparison to other sources of information, is the most unique and helpful feature of accounting information for managerial work. However, the validity of this and other expectations about the unique advantages of accounting can only be discovered by incorporating an analysis of other sources of information into management accounting studies. In this way, researchers can develop better theories about the potentially unique features of accounting information that managers find or could find helpful.

The third implication of this approach is to focus more on how managers actually work with accounting information and less on its technical characteristics. As argued earlier, many recent developments in accounting (e.g., balanced scorecard, causal performance maps, activity-based costing) are directed towards making accounting information a more complete description of organizational activities. The approach advanced in this paper, however, indicates that such developments are somewhat misplaced as they give inadequate attention to managerial (in contrast to accounting) beliefs about the quality and relevance of information. From this perspective, accounting information is helpful for managers when it enables them to do things, when it is mobilised as a resource for action (Ahrens & Chapman, 2007). This indicates that judgements about the quality and relevance of accounting information should relate primarily to whether it helps managers to carry out their work and less to whether it adequately describes underlying organizational activities. As such, although technical improvements to the design of accounting information are important, they are somewhat secondary to consideration of how managers draw on accounting information to get things done.

The fourth and final implication of the approach outlined in this paper is the potential for much greater engagement between researchers and practitioners. Accounting research, and management research more generally, has been criticised for becoming far too removed from the practices and activities it seeks to investigate and illuminate (Hopwood, 2007; Johnson, Melin &



Whittington, 2003; Mintzberg, 1982). The specific areas for future investigation as outlined in the propositions, as well as a greater focus on process-based experimental studies and micro-practices in field studies, are collectively directed at much closer engagement with what managers do (and do not do) with accounting information in their work. Such an approach is likely to increase managers' interest in the outputs of accounting research as the research agenda more closely matches "the lived worlds of organizational actors" (Johnson et al., 2003: 15). The approach is also likely to increase the likelihood of managers engaging in the research process itself, whether as subjects in process-based experiments and/or as participants in field studies. Furthermore, greater engagement with managers is likely to help researchers to become aware more quickly of changes to the way in which managers use accounting information, and thus respond more effectively "to the shifting nature of the world of practice" (Hopwood, 2007: 1370). In an environment of increasing disconnection between researchers and practitioners, this is important if accounting research is to influence more strongly the practice of accounting itself. In particular, researchers can develop new accounting techniques, and make refinements to existing techniques, based on a more nuanced and pertinent understanding of how and why managers do and/or might use accounting information in their work.



References

- Abernethy, M. A. and Brownell, P. (1999). The role of budgets in organizations facing strategic change: An exploratory study. *Accounting, Organizations and Society*, 24, 189-204.
- Abernethy, M. A., Horne, M., Lillis, A. M., Malina, M. A. and Selto, F. H. (2005). A multi-method approach to building causal performance maps from expert knowledge. *Management Accounting Research*, 16, 135-155.
- Ahrens, T. (1997). Talking accounting: An ethnography of management knowledge in British and German brewers. *Accounting, Organizations and Society*, 22(7), 617-637.
- Ahrens, T. (2004). Refining research questions in the course of negotiating access for fieldwork. In Humphrey, C. and Lee, B. *The real life guide to accounting research: a behind the scenes view of using qualitative research methods* (295-308), Oxford: Elsevier.
- Ahrens, T. and Chapman, C. S. (2006). Doing qualitative field research in management accounting: Positioning data to contribute to theory. *Accounting, Organizations and Society*, 31(8), 819-841.
- Ahrens, T. and Chapman, C. S. (2007). Management accounting as practice. *Accounting, Organizations and Society*, 32(1-2), 1-27.
- Ahrens, T. and Dent, J.F. (1998). Accounting and organizations: realizing the richness of field research. *Journal of Management Accounting Research* 10, 1-39.
- Ahrens, T. and Mollona, M. (2007). Organisational control as cultural practice—A shop floor ethnography of a Sheffield steel mill. *Accounting, Organizations and Society*, 32(4-5), 305-331.
- Alac, M. and Hutchins, E. (2004). I see what you are saying: action as cognition in fMRI brain mapping practice. *Journal of Cognition and Culture*, 4(3), 629-662.
- Anderson, M. H. (2008). Social networks and the cognitive motivation to realize network opportunities: a study of managers' information gathering behaviors. *Journal of Organizational Behavior*, 29, 51-78.
- Birnberg, J G, Luft, J. and Shields, M. D. (2007). Psychology theory in management accounting research. In *Handbook of Management Accounting Research*, edited by C S Chapman, A G Hopwood, and M D Shields. Oxford: Elsevier, 113-135.
- Bisbe, J., Batista-Foguet, J. and Chenhall, R. H. (2007). Defining management accounting constructs: A methodological note on the risks of conceptual misspecification. *Accounting, Organizations and Society*, 32, 789-820.
- Bisbe, J. and Otley, D. (2004). The effects of the interactive use of management control systems on product innovation. *Accounting, Organizations and Society*, 29(8), 709-737.
- Boland, R. J. (1993). Accounting and the interpretive act. *Accounting, Organizations and Society*, 18(2-3), 125-146.
- Boland, R. J. and Pondy, L. R. (1986). The micro dynamics of a budget-cutting process: modes, models and structure. *Accounting, Organizations and Society*, 11(4/5), 403-422.
- Bowker, G. C. and Star, S. L. (1999). *Sorting things out: classification and its consequences*. Cambridge, Mass: MIT Press.
- Burchell, S., Clubb, C., Hopwood, A., Hughes, A. and Nahapiet, N. (1980). The roles of accounting in organizations and society. *Accounting, Organizations and Society*, 5, 5-27.
- Cardinaels, E. (2008). The interplay between cost accounting knowledge and presentation formats in cost-based decision-making. *Accounting, Organizations and Society*, In press.
- Chapman, C. S. (1997). Reflections on a contingent view of accounting. *Accounting, Organizations and Society*, 22(2), 189-205.
- Chapman, C. S. (1998). Accountants in organisational networks. *Accounting, Organizations and Society*, 23(8), 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*, 28, 127-168.



- Chenhall, R. H. (2005). Integrative strategic performance measurement systems, strategic alignment of manufacturing, learning and strategic outcomes: An exploratory study. *Accounting, Organizations and Society*, 30(5), 395-422.
- Chenhall, R. H. (2008). Accounting for the horizontal organization: a review essay. *Accounting, Organizations and Society*, 33, 517-550.
- Coletti, A. L., Sedatole, K. L., and Towry, K. L. (2005). The effect of control systems on trust and cooperation in collaborative environments. *The Accounting Review*, 80(2), 477-500.
- Covaleski, M. A., Evans, J. H., Luft, J. L. and Shields, M. D. (2003). Budgeting research: Three theoretical perspectives and criteria for selective integration. *Journal of Management Accounting Research*, 15, 3-49.
- Daft, R. L. and Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science*, 32(5), 554-571.
- Dane, E. and Pratt, M. G. (2007). Exploring intuition and its role in managerial decision making. *Academy of Management Review*, 32(1), 33-54.
- Daniels, H., Cole, M. and Wertsch, J. V. (2007). *The cambridge companion to Vygotsky*. Cambridge: Cambridge University Press.
- Ditillo, A. (2004). Dealing with uncertainty in knowledge-intensive firms: the role of management control systems as knowledge integration mechanisms. *Accounting, Organizations and Society* 29:401-421.
- Dent, J. F. (1991). Accounting and organizational cultures: A field study of the emergence of a new organizational reality. *Accounting, Organizations and Society*, 16(8), 705-732.
- Dekker, H. C. (2004). Control of inter-organizational relationships: Evidence on appropriation concerns and coordination requirements. *Accounting, Organizations and Society*, 29(1), 27-49.
- Earl, M. J. and Hopwood, A. G. (1980). From management information to information management. In *The information systems environment*. H. C. Lucas, F. F. Land, T. J. Lincoln and K. Supper. Amsterdam, North-Holland Publishing Company: 3-13.
- Emsley, D. (2001). Redesigning variance analysis for problem solving. *Management Accounting Research*, 12: 21-40.
- Engestrom, Y. (2007). Putting Vygotsky to work: the change laboratory as an application of double simulation. In Daniels, H., Cole, M. and Wertsch, J. V. *The cambridge companion to Vygotsky* (363-382). Cambridge: Cambridge University Press.
- Espeland, W. N. and Sauder, M. (2007). Rankings and reactivity: how public measures recreate social worlds. *American Journal of Sociology*, 113(1), 1-40.
- Feldman, M. S. and March, J. G. (1981). Information in organizations as signal and symbol. *Administrative Science Quarterly*, 26, 171-186.
- Fisher, J. (1995). Use of nonfinancial performance measures. In *Readings in management accounting*. S. M. Young. Englewood Cliffs, Prentice Hall: 329-335.
- Galbraith, J. (1973). *Designing complex organizations*. New York, Addison-Wesley.
- Gigerenzer, G. (2008). *Gut feelings: the intelligence of the unconscious*. London: Penguin.
- Gilkey, R. and Kilts, C. (2007). Cognitive fitness. *Harvard Business Review*, November: 53-66.
- Hales, C. (1999). Why do managers do what they do? Reconciling evidence and theory in accounts of managerial work. *British Journal of Management*, 10, 335-350.
- Hales, C. P. (1986). What do managers do? A critical review of the evidence. *Journal of Management Studies*, 23(1), 88-115.
- Hall, M. (2008a). The effect of comprehensive performance measurement systems on role clarity, psychological empowerment and managerial performance. *Accounting, Organizations and Society*, 33:141-163.
- Hall, M. (2008b). Management control systems and learning: investigating the effects of comprehensive performance measurement on managers' mental model development. Working paper.



- Hanaway, J. (1989). *Managers managing: The workings of an administrative system*. Oxford, Oxford University Press.
- Hartmann, F. G. H. (2000). The appropriateness of RAPM: Toward the further development of theory. *Accounting, Organizations and Society*, 25, 451-482.
- Henri, J. (2006). Management control systems and strategy: A resource-based perspective. *Accounting, Organizations and Society*, 31(6), 529-558.
- Hogarth, R. M. (1982). Discussion of an assessment of laboratory experiments in accounting. *Journal of Accounting Research*, (20, supplement), 108-116.
- Hopwood, A. G. (1972). An empirical study of the role of accounting data in performance evaluation. *Journal of Accounting Research*, Empirical research in accounting supplement, 156-182.
- Hopwood, A. G. (1978). Toward an organizational perspective for the study of accounting and information systems. *Accounting, Organizations and Society*, 3: 3-13.
- Hopwood, A. G. (1989). Organisational contingencies and accounting configurations. In B. Fridman, L. Ostman (Eds.), *Accounting development-some perspectives-in honour of Sven-Eric Johansson* (pp.23-44) Stockholm.
- Hopwood, A. G. (2007). Wither accounting research? *The Accounting Review*, 82: 1365-1374.
- Horngren, C. T., Bhimani, A., Datar, S. M. and Foster, G. (2005). *Management and cost accounting*. Harlow, Prentice Hall.
- Hutchins, E. (1995). *Cognition in the wild*. Cambridge, MA: MIT Press.
- Isenberg, D. J. (1984). How senior managers think. *Harvard Business Review*, November-December, 81-90.
- Ittner, C. D. and Larcker, D. F. (2003). Coming up short on nonfinancial performance measurement. *Harvard Business Review*, 81(11), 88-97.
- Jarzabkowski, P. and Seidl, D. (2008). The role of meetings in the social practice of strategy. *Organization Studies*, 29(11), 1391-1426.
- Johnson, G., Melin, L. and Whittington, R. (2003). Micro strategy and strategizing: towards an activity-based view. *Journal of Management Studies*, 40(1), 3-22.
- Jonsson, S. (1998). Relate management accounting research to managerial work! *Accounting, Organizations and Society*, 23(4), 411-434.
- Jonsson, S. and Macintosh, N. B. (1997). CATS, RATS, AND EARS: Making the case for ethnographic accounting research. *Accounting, Organizations and Society*, 22(3-4), 367-386.
- Jonsson, S. and Solli, R. (1994). 'Accounting talk' in a caring setting. *Management Accounting Research*, 4(4), 301-320.
- Jørgensen, B., and Messner, M. (2009). Accounting and strategising: A case study from new product development. *Accounting, Organizations and Society*, doi:10.1016/j.aos.2009.04.001
- Kaplan, R. S. and Cooper, R. (1998). *Cost & effect: using integrated cost systems to drive profitability and performance*. Boston, Harvard Business School Press.
- Kaplan, R. S. and Norton, D. P. (1996). *Translating strategy into action: The balanced scorecard*. Boston, Harvard Business School Press.
- Kotter, J. P. (1982). *The general managers*. New York, The Free Press.
- Lambert, R., Tant, K. and Watson, J. (2008). Simulated financial dealing room: learning discovery and student accountability. *Accounting and Finance*, 48(3), 461-474.
- Landau, M. and Stout, R. (1979). To manage is not to control: or the folly of type II errors. *Public Administration Review*, 39(2): 148-156.
- Lave, J. (1988). *Cognition in practice: mind, mathematics and culture in everyday life*. Cambridge University Press: Cambridge.
- Lipe, M. G. and Salterio, S. (2002). A note on the judgemental effects of the balanced scorecard's information organization. *Accounting, Organizations and Society* 27: 531-540.

- Lombardo, M. M. and McCall, M. W. (1982). Leaders on the line: observations from a simulation of managerial work. In Hunt, J. G., Sekaran, U. and Schriesheim, C. A. *Leadership beyond established views* (50-67). Carbondale: Southern Illinois University Press.
- Luft, J. and Shields, M. D. (2003). Mapping management accounting: Graphics and guidelines for theory-consistent empirical research. *Accounting, Organizations and Society*, 28, 169-249.
- Lynch, R. L. and Cross, K. F. (1992). *Measure up - yardsticks for continuous improvement*. Cambridge MA, Basil Blackwell.
- Malina, M. A., Norreklit, H. S. O. and Selto, F H. (2007). Relations among measures, climate of control, and performance measurement models. *Contemporary Accounting Research*, 24(3): 935-982.
- March, J. G. (1986). Ambiguity and accounting: The elusive link between information and decision making. *Accounting, Organizations and Society*, 12: 153-168.
- McKinnon, S. M. and Bruns, W. J. (1992). *The information mosaic*. Boston, Harvard Business School Press.
- Millo, Y. and Mackenzie, D. (2009). The usefulness of inaccurate models: Towards an understanding of the emergence of financial risk management. *Accounting, Organizations and Society*. Forthcoming.
- Mintzberg, H. (1973). *The nature of managerial work*. New York, Harper & Row.
- Mintzberg, H. (1975). *Impediments to the use of management information*. National Association of Accountants and Society of Industrial Accountants.
- Mintzberg, H. (1982). If you're not serving Bill and Barbara, then you're not serving leadership. In Hunt, J. G., Sekaran, U. & Schriesheim, C. A. *Leadership: Beyond Establishmenet Views* (239-259), Southern Illinois University Press: Carbondale.
- Nelson, R. E. (2001). On the shape of verbal networks in organizations. *Organization Studies*, 22(5), 797-823.
- Noordegraaf, M. and Stewart, R. (2000). Managerial behaviour research in private and public sectors: Distinctiveness, disputes and directions. *Journal of Management Studies*, 37(3), 427-443.
- Norreklit, H. (2003). The balanced scorecard: what is the score? A rhetorical analysis of the balanced scorecard. *Accounting, Organizations and Society* 28: 591-619.
- Osborn, C. S. (1998). Systems for sustainable organizations: emergent strategies, interactive controls and semi-formal information. *Journal of Management Studies*, 35: 481-509.
- Power, M. (2004). Counting, control and calculation: reflections on measuring and management. *Human Relations*, 57(6), 765-783.
- Preston, A. (1986). Interactions and arrangements in the process of informing. *Accounting, Organizations and Society*, 11(6), 521-540.
- Raiffa, H. (1968). *Decision analysis: Introductory lectures on choices under uncertainty*. Reading, MA: Addison-Wesley.
- Reber, A. S. (1976). Implicit learning of synthetic languages: The role of instructional set. *Journal of Experimental Psychology: Human Learning and Memory*, 2: 88-94.
- Reed, M. (1989). *The sociology of management*. Hemel Hempstead, Harvester Wheatsheaf.
- Rowe, C., Birnberg, J. G. and Shields, M. D. (2008a). Effects of organizational process change on responsibility accounting and managers' revelations of private knowledge. *Accounting, Organizations and Society*, 33:164-198.
- Rowe, C., Birnberg, J. G. and Shields, M. D. (2008b). Relevance-reliability and comparability-consistency tradeoffs in accounting information: the case of non-routine organizational problem solving. *Working paper*.
- Senge, P. (1990). *The fifth discipline: the art and practice of the learning organization*. New York: Doubleday/Currency.
- Simon, H. A., Kozmetsky, G., Guetzkow, H. and Tyndall, G. (1954). *Centralization vs decentralization in organizing the controller's department*. New York, The Contollership Foundation.



- Simons, R. (1990). The role of management control systems in creating competitive advantage: New perspectives. *Accounting, Organizations and Society*, 15(1/2), 127-143.
- Simons, R. (1991). Strategic orientation and top management attention to control systems. *Strategic Management Journal*, 12, 49-62.
- Simons, R. (1995). *Levers of control*. Boston, Harvard Business School Press.
- Sprinkle, G. B. (2003). Perspective on experimental research in managerial accounting. *Accounting, Organizations and Society*, 28, 287-318.
- Stewart, R. (1988). *Managers and their jobs*. London, MacMillan Press.
- Swieringa, R. J. and Weick, K. E. (1982). An assessment of laboratory experiments in accounting. *Journal of Accounting Research*, 20 (Supplement), 56-101.
- Tengblad, S. (2006). Is there a 'new managerial work'? A comparison with Henry Mintzberg's classic study 30 years later. *Journal of Management Studies*, 43(7), 1437-1461.
- Turner, K. L. and Makhija, M. V. (2006). The role of organizational controls in managing knowledge. *Academy of Management Review*, 31(1): 197-217.
- Tversky, A. and Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 453-458.
- Vandenbosch, B. (1999). An empirical analysis of the association between the use of executive support systems and perceived organizational competitiveness. *Accounting, Organizations and Society*, 24, 77-92.
- Vandenbosch, B. and C A Higgins. (1995). Executive support systems and learning: a model and empirical test. *Journal of Management Information Systems* 12:99-130.
- Vandenbosch, B. and Huff, S. L. (1997). Searching and scanning: How executives obtain information from executive information systems. *MIS Quarterly*, March, 81-107.
- Van der Veeke, H. J. M. and Wouters, M. J. F. (2002). Using accounting information systems by operations managers in a project company. *Management Accounting Research*, 13, 345-370.
- Vera-Munoz, S. C., Shackell, M., and Buehner, M. (2007). Accountants' usage of causal business models in the presence of benchmark data: a note. *Contemporary Accounting Research*, 24(3), 1015-1038.
- Vollmer, H., Mennicken, A., and Preda, A. (2008). Tracking the numbers: across accounting and finance, organizations and markets. *Accounting, Organizations and Society*, in press.
- Vygotsky, L. S. (1978). *Mind in society: the development of higher psychological processes*. Edited by Cole, M., John-Steiner, V., Scribner, S. and Souberman, E. Harvard University Press, Cambridge.
- Whiteley, W. (1985). Managerial work behaviour: An integration of results from two major approaches. *Academy of Management Journal*, 28(2), 344-362.
- Wouters, M. and Verdaasdonk, P. (2002). Supporting management decisions with ex ante accounting information. *European Management Journal*, 20(1), 82-94.

