New Directions in Management Accounting Research

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Abstract: This paper builds on the 1995 Management Accounting Section research committee's report. We discuss three broad areas which researchers might follow to explore new issues in management accounting research, and emphasize the importance of a multi-paradigm, multi-method approach to research.

INTRODUCTION

The Management Accounting Section (MAS) research committee\(^1\) worked between August 1994 and July 1995 to identify a list of management accounting research topics for the 1990s and beyond. This paper expands on that committee's report.

\(^1\) Because of the geographical dispersion among the members, the committee communicated through electronic mail. This method was quite successful. We met the goals of the committee agenda, compiled our conclusions, and produced this paper.

We thank Mike Shields (the editor) and George Foster (the referee) for insightful comments. Mark Isham provided editorial assistance.
By design, this committee was geographically (eight different countries) and philosophically (behavioral, economic) diverse. The MAS leadership designed a diverse committee in order to encourage researchers to think about different ways of viewing management accounting and employ different approaches to framing research questions. As intended, the diversity motivated lively discussions about potential new directions for management accounting research.

This paper focuses on three broad topic areas. We chose not to develop a detailed list of issues that researchers could, or should pursue in the future. This choice stems from the diversity in the group. We quickly agreed on broad issues but found less agreement on how to decompose broad issues into smaller issues. We also differed on the best methods to use to study a specific issue. Therefore, we only identify paths that researchers might follow to explore new issues in management accounting research, and we highlight the value added from examining the same or similar issue(s) using alternate methods and paradigms. We also caution the reader that the three topics considered reflect the committee's background and interests, and are not intended to be the best or only topics from which management accounting research can or should expand. However, given the committee's composition, we believe that our output provides a good starting point for discussing a wide variety of future research opportunities in management accounting.

We chose to focus our discussion on the following three topic areas:

- Management accounting's role in organizational change
- The interaction between accounting and organizational structure
- The role of accounting information in supporting decision making

We chose these areas for several reasons. First, we believe that change is a prominent feature of today's environment. Thus, we wish to highlight the importance of studying how management accounting information can help an organization identify the need for, and the way to, change, and how exogenous changes in the environment affect the nature of information required for effective management (Armitage et al. 1994). Second, we believe that organizations alter their structure as part of their change management strategy. Changing structures imply changes in the information needed, and the way information is used to measure and motivate

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2 In particular, the North American contributors hold a primarily economic-based worldview, especially as it pertains to research topics and methods. Conversely, the Australian and European authors lean more toward the sociological aspects of management accounting and its role in organizations. These different worldviews are consistent with the conclusions reached by Lukka and Kasanen (1996).

3 The committee used three avenues to identify the broad challenges facing management accounting, and the research questions that stem from these challenges. First, we examined practice. By observing the activities and decision settings prevalent within organizations (e.g., emergence of cross-functional teams), we can advance new theories or perspectives on traditional practice and test existing research. Second, we examined prior research in management accounting in order to develop and extend the existing knowledge base. Finally, we adapted prior research, either from other disciplines (for example, management, economics, psychology) or research methods (analytical, archival, behavioral) to expand current knowledge in management accounting without reinventing the wheel.
performance. Third, we believe that both environmental and organizational changes imply changes in the type of information and the use of information for decision making. For example, there has been a sea change in the data and the methods used to assess the cost benefit to improving product quality. Also, there are greater information demands (e.g., environmental reports) from stakeholders both inside and outside the organization. The taxonomy we chose follows naturally from this view. However, as the above discussion suggests, we recognize that the three areas are neither exclusive nor exhaustive. In particular, analytic research emphatically underscores the trade-offs among the different information uses (e.g., contracting vs. decision support) and information users (e.g., capital vs. product market). Thus, in appropriate places, we discuss the gain from studies that examine the trade-off among the various uses of management accounting information.4

An important observation that emerged from our deliberations is the value of using multiple research methods to address the same research question. This is good news (especially for doctoral students) because one need not go far to find inspiration for future research. Accounting research questions pursued using one research method can and should provide stimulus for research using another method. For instance, a controlled experiment can be used to distinguish between competing economics-based and psychology-based explanations for observed behavior. In addition, cross-disciplinary research projects can expand the knowledge base in management accounting. For example, the psychology of group decision making may be applicable to research inquiries in areas such as target costing. Thus, opportunities to expand our understanding of management accounting phenomena are created when researchers use the synergy that exists among research methods and across disciplines to study complementary issues.

The remainder of the paper is structured as follows. In the following three sections, we summarize our view of the three main topic areas and corresponding research opportunities. Subsequently, we underscore the importance of using multiple methods. Specifically, we illustrate how studies using differing methodologies have added to our store of knowledge about activity-based costing systems. The final section contains concluding comments.

MANAGEMENT ACCOUNTING AND ORGANIZATIONAL CHANGE

Successful organizations continuously adapt to changes in their environment, and proactively change their environment. Organizations grow, merge, acquire other organizations and change leadership styles. These changes affect management accounting in two ways. First, management accounting information should help organizations change. Management accounting should help organizations recognize the need for initiating change, and suggest the appropriate response to an environmental

4 The reader will recognize the links to the Feltham and Denski (1970) decision-facilitating and decision-aiding information framework, as well as the organization theory, decision rights and control framework used by Zimmerman (1996).
change. Equally important is the need for management accounting to avoid inhibiting change. Considerable anecdotal evidence suggests that management accounting systems can inhibit change by focusing on performance measures that maintain the status quo and discourage experimentation. Second, management accounting information should change in response to environmental change. For example, the academic and popular press frequently notes changes in the structure of the work environment, such as employees working in teams and quality circles. The resulting changes in employer and employee expectations imply that information for decision making and motivation must concurrently change. The following sub-sections expand on these two themes and table 1 illustrates the major research directions described.

Management Accounting’s Effect on Organizational Change

Scorecard keeping is one of management accounting’s traditional roles. This role has evolved to support both the standard engineering control paradigm and the organization control paradigm. The engineering control paradigm consists of setting a target, undertaking a course of action, measuring the result, comparing the result to the target, and responding to the variance between the result and the target. In this view, a management accounting system’s role is to develop standards and budgets, and compute variances. Implicitly, this paradigm adopts a steady-state view of the organization and, thus, gives little impetus for initiating change. In contrast, the organization control paradigm views the organization as an open adaptive system. Under this view, managers rely on the management accounting system to identify and communicate the important external and internal information that they need to recognize and adapt to environmental changes.

Several interesting research topics exist for both views of accounting information’s scorecard keeping role. For example, critics such as Goldratt (1990) object strongly to how management accounting has implemented the engineering control paradigm. They claim that the accounting variance approach to management has been both dysfunctional and debilitating. Goldratt (1990) advocates using only direct material costs to compute product costs and is particularly critical of traditional cost allocations which he claims motivate managers to produce for inventory, an anathema to his Theory of Constraints. Given the considerable appeal of Goldratt’s (1990) message to operating managers, we need research that scrutinizes both accounting’s approach to organization control, and how variances focus and affect managerial decision making within the changing organization. Such research can determine the validity of Goldratt’s (1990) propositions in a range of circumstances. (See, Noreen et al. (1995), Otley et

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5 In Australia, management accounting practice and research is dramatically changing in response to institutional and economic demands to improve Australia’s competitive position in the world economy. Descriptive and case study-based research is gaining prominence as researchers attempt to link academic research with important issues in practice.

6 Understanding changes in management is a prerequisite to any discussion of changes in management accounting as a support system. However, given the broad changes occurring in management practice and the presence of excellent summaries elsewhere (e.g., Greenberg and Baron 1997; Drucker 1992; Dunphy and Stace 1992), we chose not to write an abbreviated section. Instead, wherever appropriate we indicate the relevant change in management practice.
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<th>Issue</th>
<th>Research Direction</th>
<th>Goal of Inquiry</th>
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<tr>
<td>The Control Paradigm</td>
<td>1. Determine the validity of the &quot;Theory of Constraints&quot; propositions in a range of organizational settings. 2. Identify choices for efficient and effective control measures: a) Control Measures Necessary (Financial and non-financial) b) Setting Targets c) Management controllability of measures (e.g., trade-off between the controllability principle and incentives for managerial innovation).</td>
<td>1. Resolve debate between traditional control paradigm and the &quot;Theory of Constraints&quot; in the context of management accounting's relation to organizational change. 2. Extend current knowledge related to control measures to encompass the effect of measurement choices on organizational ability to execute change.</td>
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<tr>
<td>Management Accounting as a Routine</td>
<td>3. Identify management accounting system characteristics that provide stability to the system without engendering organizational inertia. 4. Observe the impact of organizational change on management accounting routines. 5. Document organizational learning and its influence on management accounting innovations.</td>
<td>3. Develop theory that characterizes the equilibrium state in which a management accounting system balances its conflicting roles. 4. Develop theories of contextual learning within management accounting routines. 5. Apply existing process innovation models to management accounting change environments to describe the process of change. Blend findings from innovation management research in organization theory with evolutionary economics to develop contextually rich models of changing accounting routines.</td>
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al. (1995) and Eisenhardt (1985) for an interesting start.) Such research also can determine the role of management accounting in supporting the information interface between the adaptive organization and its environment.

Staying within the scorecard view for accounting, research can explore other facets of how accounting affects organizational change. Consider the related problems of determining what measures to use, whether managers should control the chosen measures, the basis for setting the targets, and how to operationalize the measures. Each of the above issues raises several intriguing searchable questions. For example, in determining what targets to use, what additional problems do measurements that adopt a myopic perspective create when an organization also relies on this information to identify and direct organizational change? Are there particular targets that help management see the direction in which they should be leading the organization? In particular, are non-financial measures better targets because, as some claim, these measures determine, or drive subsequent financial performance? (See Schefczyk (1993) for a provocative perspective.) Studies such as Fornell et al. (1996), Balakrishnan, Linsmeier, and Venkatraman (1996) and Buzzell (1987) have begun the job of systematically testing the links between non-financial performance measures, such as quality and inventory turns, with financial results, but more research is needed in this area.

What to measure also raises the issue of controllability. Conventional wisdom argues that managers be evaluated only on the factors they are able to control. Perhaps since the controllability principle has an inherent appeal to equity, few people have questioned its relevance or appropriateness. However, when organizations hold managers accountable for results, whether they are controllable or not, the managers often develop methods to control—or manage—what was previously thought to be uncontrollable. Some authors (e.g., Merchant 1987; Demski 1980) have observed that the controllability principle may reduce innovation in organizations because managers do not attempt to innovate where they perceive risks but not commensurate benefits. Therefore, both the costs and benefits of relying on the controllability principle to design performance evaluation systems deserve additional investigation. This research may be initially descriptive or field based so that we can identify the extent to which managers consistently develop ways to control and manage seemingly uncontrollable events. Follow-up work can identify whether manager’s strategies are functional or dysfunctional to the firm as a whole, and develop and test theories that predict advantageous conditions for assigning responsibility for events not directly controllable by the manager.

\[7\] In the context of a principal-agent model, Antle and Demski (1988) provide a sharp distinction between controllability and informativeness. Choudhury (1986) also questioned the appropriateness of conventional wisdom.

\[8\] In a field study, Dent (1987) observed behavior in a computer firm where senior management deliberately held managers responsible for results outside of their control. Improved lateral communication among business units was senior management’s intended consequence. While communication among business units improved, role stress and communication inefficiencies also increased.
Even if one can choose what attribute to measure, we require systematic consideration of how the choice of the measurement tool affects change. For example, even if we determine that managers will be evaluated based on full cost, the problem of measuring full cost remains. Under what circumstances are some measures (such as residual income) better than others? What are the implications for choosing a particular measure? For instance, we know that we can view cost allocations as an implicit tax to the manager (Zimmerman 1979). What are the insights and managerial behaviors achieved by allocating overhead using different cost drivers? (See Cooper and Kaplan (1990) for a taxonomy of cost drivers.) Specifically, direct labor has long been a common cost driver in many firms (Boer 1993). To what extent has this cost driver choice contributed to the managerial choice to exchange labor for technology? Has the change been beneficial? Studies that explore how the choice of measure affects the propensity, and the direction of, change seem fruitful (see Banker et al. 1996).

Turning finally to the basis for choosing target levels, research can explore how the standard-setting process affects change. In particular, a firm can set standards based on engineering specifications, continuous improvement, negotiation, or benchmarking with the external environment. Are some (combinations) of these avenues better suited than others to help create a vision or road map for directing change? Related issues, such as the value of employee involvement in setting standards, also are relevant, particularly if the study incorporates factors such as greater employee empowerment, which characterize today's economic climate.

Ultimately, managerial accounting controls provide feedback that allows firms to learn about their current environment and make predictions about the future. In particular, the feedback from the control role of management accounting systems should help organizations not only recognize the need for, but also provide the motivation to initiate, organizational change. Thus, an avenue for future research is exploring the broader question of how characteristics of the management accounting system affect managers' propensity to direct change within their responsibility unit.

This research process, however, must not lose track of the fact that accounting systems can also inhibit change (as Goldratt (1990) would argue). Accounting systems can inhibit change because accounting routines lend stability to an organization (Greenwood and Hinings 1996; Van de Ven and Poole 1995). In particular, decision makers develop routines from past experiences, and these routines develop into decision rules and systems. This stability is valuable as it increases the firm's ability to respond to circumstances encountered earlier. Unfortunately, routines formalized and ingrained into the organization and its culture engender inertia and reduce the organization's ability to respond to new events. But, a change project inherently anticipates new events and works back to the present state. Thus, the "optimal" system must provide the stability necessary to

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9 The common use of management accounting systems to develop managerial performance measures has a powerful effect in creating organization inertia. When actions taken in response to new information will result in lower performance measures, managers are slow to identify and respond to new information.
meet users' needs efficiently, while simultaneously creating an information environment that permits managers to envision, and respond to new directions for the firm. Research exploring how this trade-off can be accomplished (theoretically or by example) would be well received.

**Organizational Change as Impetus for Management Accounting Change**

While the previous sub-section focused on how accounting can aid change, environmental change also affects management accounting. Accounting is a communication tool, the language of business (Lavoie 1987; Gowlber and Legge 1983). Just as spoken languages respond to cultural and societal changes, accounting systems must respond to organizational and environmental change. The research avenues discussed in this sub-section focus on external influences on management accounting systems. The two broad themes we explore are the processes by which systems adapt to transformations within their organization, and the empirical association between changes in the environment and changes in accounting systems.

**The Process of Change**

Since established accounting routines are part of the organizational memory, any theory of management accounting change is likely to involve aspects of organizational learning. Change implies that the organization must unlearn or forget some routines while learning new ones. Researchers believe that unlearning is a stepwise process: a higher level of learning replaces a lower level which is stored in organization's memory (Hedberg 1981; Starbuck et al. 1978). The desire to avoid an unspecified organizational crisis induces organizations to unlearn and climb up the learning ladder. Research could explore the recovery and enhancement of a firm's past accounting routine as a result of a certain type of cue. Ultimately, research might develop a theory of contextual learning within accounting routines. For example, research might examine when unlearning becomes organizational forgetting (Carmona and Perez-Casanova 1993). That is, when is an accounting routine completely deleted rather than stored in memory? Research relating forgetting to a specific context or cue has the potential to substantially deepen our understanding of organizational crises and learning effects on accounting systems.

Learning can also be studied from the perspective of the experience curve or as the creation of new accounting routines. These studies can profitably draw from innovation management in organization theory. Several important and rich empirical studies have been completed in this area. These studies focus on topics such as conditions and success factors for innovation, innovation process management, and learning trajectories, i.e., (non) path dependent build up of sustainable advantage (Cohen and Levinthal 1990; Van de Ven et al. 1989; Schroeder and Van de Ven 1986; Van de Ven 1986). Management accounting research could draw upon these process models and test their application to accounting change projects. Field-based management accounting research in learning also could profitably incorporate insights from several methodological approaches in sociology (e.g., Van de Ven 1992).
The literature on population ecology focuses on organizational inertia (Hannan and Freeman 1984), arguing that organizations experience inertia because they reproduce themselves on the basis of successful routines. This and other propositions should be rigorously tested. For example, since inertia, in the form of routinized behavior, implies limited flexibility, a changing environment can force firms to risk their very survival on attempts to modify their routines in order to improve their competitiveness (Nelson and Winter 1982). Thus, research could explore the relation between the rate of abandonment of accounting routines (either as simplifications or as elimination) and performance.

Finally, from an economic perspective, evolutionary economics recognizes that organizational routines impact sub-routines, such as accounting systems. Evolutionary economics thus provides a theoretical basis for research on the sequence and type of change in accounting systems and instruments. For example, does chronological industry evolution explain development in budget systems? Are the instrumental characteristics of each version of budgeting related to a specific recurring organizational condition or management style? If so, we can find a search routine that is an impetus for evolutionary accounting change and provides a managerial contingency of practical relevance.

**Recognizing the Impact of Organizational Change on Management Accounting**

Documenting how management accounting has changed in response to environmental change is perhaps a prerequisite to studying the process of change. Given the turbulence in today’s business climate, research opportunities (particularly, for cases and field-based research) abound. At the macro level, several countries in Eastern Europe, Taiwan and India are re-structuring their economy. Large scale privatization of state-owned enterprises and removal of protectionist barriers have substantively altered the competitive landscape for firms in these economies. The end of apartheid in South Africa is similarly a major change in the social dynamics of the workplace. At the organizational level, it is now widely accepted that successful organizations must develop and maintain a customer focus and reduce response time to customer requests. Similarly, the adoption of lean production systems has increased the interdependence among organizational sub-units. The emergence of self-directed work teams has changed the dynamics of the information needed by employees to perform their work. Increasing coordination among legally distinct organizations has blurred the lines between suppliers and employees. It is apparent these changes will have a profound effect on the way organizations collect, process and use management accounting information. Yet, we have little in the way of systematic inquiry as to what the changes are, what features facilitate or impede the change process, and the consequences of not

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10 Inertia is the antithesis of organizational change; thus, organizations change because their routines have become unsuccessful and are no longer reproduced. Three main factors influence inertia and reproduction at the industry level: age, size and complexity (Hannan and Carroll 1992).
changing rapidly enough. In our opinion, this is an extremely fertile area for inquiry.

MANAGEMENT ACCOUNTING AND THE ORGANIZATIONAL STRUCTURE

Organizational structure can be defined broadly as the ways in which organizations bundle (organize) resources to achieve some end. Management accounting can then be viewed as the information support system that best facilitates communication, motivation and performance evaluation within a variety of organizational structures. As such, management accounting research efforts have been, and should continue to be directed toward defining the factors that affect choices among information system options. This research can focus on both the micro and macro levels within the organization. The following discussion elaborates. Table 2 summarizes the primary research directions described herein.

The Micro Level of the Organization

Traditionally, management accounting techniques have focused on supporting middle manager control over shop floor workers. Consequently, behavioral management accounting research had a similar focus. However, there has been a dramatic transformation of the workplace. Shop floor teams (work groups) have increased control over their own actions (worker empowerment) relative to a worker in a traditional assembly line. The empowerment of work groups opens up an array of research questions. Below, we sketch four broad areas to indicate the potential breadth of this research.

First, work groups present an important context for conducting judgment and decision-making research. Prior research has focused on individuals, but as research in psychology (and its application in auditing research) has shown, groups use different decision processes than those used by individuals (e.g., Martell and Guzzo 1991; Snieszek 1989; Hare et al. 1994; Moscovici 1985). A consideration of the literature on group decision making and the specific features of work groups suggest many fruitful lines of research (also, see Young et al. 1993). For example, management accounting research could explore how different forms of performance evaluation facilitate/hinder work group, as opposed to individual decision making in complex production tasks (Schulz 1996). Research can also examine group decision making from a cultural perspective. In particular, Asian, as well as Scandinavian, culture emphasizes

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11 That is, management accounting has focused on providing information that allows superiors to evaluate subordinates’ performance relative to some standard of duty or performance—a form of task control.
12 The recent entry of Scandinavian countries in the European Union, as well as the upcoming European single market/single currency has forced organizations to prepare themselves for increased competition. Consequently, the implications of lateral organization, flat structures, employee empowerment within an externally influenced (deregulated or changing market and public demands) institutional environment has and is dominating the management accounting research agenda. Behavioral research has been of predominant importance in addressing these issues.
13 In this environment, and more generally in any environment involving a knowledgeable worker, the approach shifts from verifying compliance to rules, to control based on evaluating the results created by the group or individual.
### TABLE 2
Management Accounting and Organizational Structure

<table>
<thead>
<tr>
<th>Issue</th>
<th>Research Direction</th>
<th>Goal of Inquiry</th>
</tr>
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<tbody>
<tr>
<td>Work Teams</td>
<td>1. Evaluate alternative performance measurement systems and their application to work teams.</td>
<td>1. Link new workplace structures to existing models of performance measurement. Evolve new performance measures and theories, as appropriate.</td>
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<td></td>
<td>2. Define information needs of work teams relative to individuals. Identify and explain the differing decision processes used by groups versus individuals.</td>
<td>2. Document existence of a match (or mismatch) between information needs of work teams and existing information systems. Create theory to guide new management accounting information systems, where needed.</td>
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<td></td>
<td>3. Management accounting as a tool in workplace power and politics.</td>
<td>3. Explore the broader role played by management accounting in the creation of corporate culture and the sociology of the workplace.</td>
</tr>
<tr>
<td>Responsibility Centers</td>
<td>4. Pursue joint revenue and cost allocation issues.</td>
<td>4. Develop of a theoretical framework for achieving rational allocations.</td>
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<tr>
<td></td>
<td>5. Develop new transfer pricing methods given new technologies and environmental realities.</td>
<td>5. Create modern theory of transfer pricing by blending marketing, negotiations and production management to create a more effective mechanism to transfer goods and services within the organization.</td>
</tr>
<tr>
<td>Performance Measurement</td>
<td>6. Model the relationship between the type of work performed and the compensation basis.</td>
<td>6. Discover the precise relationships between motivation and behavior. Ascertain how management accounting information impacts the relationship. Re-examine theories of decentralization.</td>
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<td></td>
<td>7. Matching performance measures to desired behavior and/or outcomes. Systematically study the evolution of performance measures.</td>
<td>7. Extend current research to encompass the shift from financial to non-financial performance measures.</td>
</tr>
<tr>
<td></td>
<td>8. The balanced scorecard and its impact on motivation and performance at the individual and the organizational level.</td>
<td>8. Extend current knowledge of the balanced scorecard and its impact on organizational effectiveness and performance.</td>
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group discussion and consensus decision making. Reaching a consensus not only increases communication, but also exposes each person to greater scrutiny and spreads the accountability for the decision. It will be instructive to explore the extent to which cultural characteristics of decision making transfer to new models of worker-manager teams in corporate cultures (see, e.g., Zaheer 1995 and Shen 1995).

Second, a recent publication of the Financial and Management Accounting Committee of the International Federation of Accountants (IFAC 1995) outlined the changes needed to match management accounting practices to the learning path of work groups from their initial implementation to final full empowerment. This outline suggests a significant need for exploratory research to document how work groups use management accounting tools and information. In addition, it provides a link to the growing interest in organizational learning (Macdonald 1995). Specifically, work group processes such as Total Quality Management (TQM) and lean production focus more explicitly on the organization as a learning process, and future behavioral management accounting research could usefully build upon this linkage.

Third, the claims about work group empowerment raise a number of questions about work place politics and the nature of work in a post-industrial society. Researchers have long recognized that organizations can use accounting to constrain the range of acceptable managerial behavior or action (Burchell et al. 1980). Work groups constitute a new arena of action in which accounting’s empowering and constraining attributes can be studied. Research that addresses the role of management accounting in the social constitution of work groups and work place transformation would also make a significant contribution.

Finally, much of the agency literature has assumed organizational structure when studying issues such as the value of information, the importance of the location of information, and communication. Only recently (see, for example, Hemmer 1995; Melumad et al. 1992; Itoh 1991) has research considered organizational design itself as an important choice variable. In particular, when and why are team-based production and/or group incentive schemes optimal? While teams have obvious benefits resulting from the sharing of knowledge, effort and agents’ ability to engage in mutual monitoring, the possibility of tacit collusion among team members creates a significant control problem. This tension has been the study of recent research inquiries (e.g., Balakrishnan et al. 1997; Arya et al. 1996; Arya and Glover 1995). However, while these papers have provided insights into the relation between organizational structure, information and incentives, there is room for additional work. For example, when is team-based production preferred even though it may result in the loss of information about individual output levels? What is the interaction between the firm’s product-market structure, organizational design and inventory levels? How does organizational form affect agent incentives for innovation and cooperation?

As the above discussion illustrates, the committee believes that there is great value in research that focuses on the interaction between management accounting systems and work organization. Also evident is the
need for a variety of research methods (field-based, empirical and analytic), as well as the need for adopting ideas from both psychology and economics.

**The Macro Level of the Organization**

At the macro level, management accounting must be adaptable to both centralized (to support coordination of decision-making activities) and decentralized organizational structures (to provide relevant information for decision making). We focus on three aspects of the centralization issue to provide insight into developing new avenues of research. We note also that organizational performance is a function of organizational structure, and management accounting research must evaluate performance measures with the understanding that organizational structure affects what is, and should be, measured.

Formal and systematic consideration of the relationship between organizational structure and management accounting information likely began when Alfred Sloan introduced responsibility accounting and profit center structures at General Motors. The creation of responsibility centers in general, and profit centers in particular, spawned consideration of joint revenue (which we discuss below as transfer pricing) and joint cost allocation in a decentralized environment. Many articles, using a variety of methods, have addressed the joint revenue and joint cost allocation problem. However, determining how to allocate joint costs and revenues to preserve the economic properties of decision making, while simultaneously providing managerial motivation, remains largely unresolved. Indeed, some authors (notably, Thomas 1978, 1969) have argued that the very nature of joint revenues and costs precludes development of any theory-based approach to their allocation.

We do, however, observe organizations developing and using cost and revenue allocation models. Economic Darwinism therefore implies that these allocations have value. Thus, there is value to research that identifies why and how organizations use cost allocations and, with this understanding, identifies characteristics of allocation systems that best serve appropriate uses. Similarly, a theory to explain and predict joint revenue and cost allocations based on environmental conditions or attributes would be a significant advancement. One possible starting point for theory development is to study other disciplines with sharing rules (e.g., sociology, social psychology, and regulatory economics) to hone our understanding of these issues.

Research is also needed to further examine the incentive structures created by differing transfer pricing schemes. Initially, the first transfer pricing systems focused on the performance of organizational units relative to their counterparts in the marketplace. Therefore, market prices were envisioned as the proper mechanism to transfer goods and services among responsibility units. This development was unfortunate for two reasons. First, it ignored the observation by Coase (1937) that organizations exist presumably because they avoid transaction costs or because they create economies of scale. When these effects exist, any approach that uses market mechanisms to solve transfer pricing problems is doomed by the very synergy that the organization was created to exploit. Second, the
early preoccupation of market prices as the coordinating mechanism in the decentralized organization distracted attention from investigating the use of other information structures or signals, such as benchmarking, as coordinating tools. Future research may seek to blend disciplines such as marketing, negotiations and production management to create a modern theory of transfer pricing that more carefully recognizes the environment of transfer pricing and exploits the new information tools that are available. Related issues pertain to the interaction of tax policies and transfer prices in an international context.

How to motivate desired behavior is another issue related to decentralization. The intention of the responsibility center approach was to tie managerial rewards to some measure of responsibility center performance such as cost or profit. This created the problem of managers pursuing responsibility center objectives to the detriment of corporate objectives. Conversely, rewards based on corporate performance creates a situation where people could shirk and ride free on the efforts of others. This built an interest in developing compensation algorithms that balanced the costs and benefits of rewards based on individual (responsibility center) or team (corporate-wide) performance—which remains a promising, and virtually unexplored, field of investigation (for exceptions see Bushman et al. 1995; Banker et al. 1996; Keating 1996).

Interesting beginnings on dealing with these conflicting directions, such as the Groves mechanism (Groves 1973), provided some important initial insights but these models remain underdeveloped and there is no evidence that they have been implemented in practice. Most research considers the ability of various compensation devices, such as profit sharing, stock options, or cash awards, to tie individual motivation to organization objectives without considering the organization structure that underlies these compensation devices. A related issue is the matching of performance measures to the level in the hierarchy. For example, practice suggests that, in many organizations, those at upper levels are rewarded based on broad organization-wide results while those at lower levels are rewarded based on their ability to meet or achieve performance objectives. Also, the focus of performance measurement in many organizations seems to shift from financial metrics to non-financial indicators of performance, such as quality, timeliness, or production rate, as one moves down the hierarchy. There has been no systematic study to identify why performance measurement has evolved in this way nor has there been any analytic modeling of the relationship between the nature of a person’s job and the compensation basis, including both the scope of the performance measure and its type.14

We conclude this sub-section by noting that the above discussion is based on the belief that delegating decision-making responsibility requires some form of financial control embedded in a responsibility center format.

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14 In India and many other parts of Asia, performance measurement/control is directly tied to personnel selection. Large but closely held organizations select key trusted people to hold important financial positions. Thus, the performance monitoring and control issues have a different focus than they do in most Western organizations. Research that explores the differences can uncover useful adaptations to improve performance measurement in both cultures.
However, despite wide use in practice and casual acceptance in most management accounting texts, there has been no systematic justification provided for the use of responsibility centers in general, and transfer pricing systems in particular. Only offered is the vague prescription that if internal markets could operate like a competitive market the firm could be neatly decomposed. (For an exception, see Roberts 1993.)

Thus, an even broader and more fundamental issue is whether organizations have outgrown the need for financial decentralization. In particular, most observers agree that the age of the knowledge worker has created the need to delegate decision making to informed and skilled decision makers. We believe that a full and broad investigation of how to motivate, compensate, and evaluate the “new” decision makers must include an re-evaluation of the appropriateness of the responsibility center as an organizational form; the apportionment of decision rights and control is not separable from structure.

**The Balanced Scorecard: Linking the Micro and Macro Views**

Of course, the effectiveness of an organization’s overall control system depends on the linkages among measures within and across hierarchical levels. The balanced scorecard, as formalized by Kaplan and Norton (1992), is a rich framework for studying the linkages across components of a firm’s control systems.

Before the 1970s, most research that studied the interplay between organizational structure and information focused on decision making or cost-benefit issues. In the 1970s, a group of French practitioners and academics developed an approach linking the information structure with the organizational structure, organizational strategy and decision-making responsibility. They called this approach the “tableau du bord.” Designers conceived the tableau du bord, which means dashboard, to allow a manager to operate the system or systems under that manager’s control (see, e.g., Lebas 1996). The tableau du bord was similar to an automobile’s instrument panel because it is a set of signals that permits the manager to “drive” operations using a variety of cues, rather than a simple on/off switch. For the first time, it offered a basis to provide, in a convenient way, a broad range of process information to decision makers in a way that focused on the decision maker’s ultimate use of the information.

The second step in this process is the development of the balanced scorecard (Kaplan and Norton 1992). The name “scorecard” is misleading because the balanced scorecard is not a scorecard in the conventional accounting sense. Rather, it is a sophisticated information structure and management approach that links effects (also called organizational objectives, such as profit levels) with causes, such as customer or employee satisfaction. The importance of the balanced scorecard is that it ties strategy, process and managers together and, in so doing, provides an integrated system of planning and control. That is, in the balanced scorecard view, the organization’s strategies and the organizational structure that it has implemented to pursue those strategies, define the nature and structure of the organization information system. Therefore, the balanced

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15 For an example of this research, see Marschak and Radner (1972).
scorecard has the potential to provide planners with a way of expressing and testing a sophisticated model of cause-and-effect in the organization, a model that provides managers with a basis to manage results.

In our view, the balanced scorecard is among the most significant developments in management accounting and, thus, deserves intense research attention. Future research can explore whether the balanced scorecard improves organizational control, and the assumed causal relationships (for example, the relationship between quality or customer service and profits) that underlie the balanced scorecard. Research can also identify the key factors that make the balanced scorecard a successful tool for organizations. It is likely that the key success factors are contingent on a number of organizational facets. Management accounting research can explore these issues using a range of methods such as case studies, behavioral experiments, analytical and empirical approaches.\textsuperscript{16}

**MANAGEMENT ACCOUNTING AND DECISION MAKING**

Decision making using management accounting information occurs in a wide variety of decision settings.\textsuperscript{17} and constructing effective incentive and control systems requires an understanding of how the information from management accounting systems affect decision making. For purposes of illustrating new directions for management accounting research the following discussion focuses on strategic and tactical decision making. Table 3 summarizes the discussion.

**Strategic Decisions**

Organization structure and management control systems design has focused on the impact of competing strategies and their influence on why and how organizations bundle their resources. Research has led to insights into how strategic business unit strategies affect management control system designs.\textsuperscript{18} Despite these efforts, this area has been relatively under-explored. At least four avenues of further research are suggested by the gaps in the literature.

The extant literature (e.g., Noreen 1991; Govindarajan and Fisher 1990; Otley and Wilkinson 1988; Jones and Wright 1987; Govindarajan and Gupta 1985; Gupta and Govindarajan 1984; Simons 1990) has also focused upon the form of management accounting techniques\textsuperscript{19} best

\textsuperscript{16} The balanced scorecard may be a vehicle which facilitates the monitoring of corporate progress toward the Reconstruction and Development Program (RDP). The RDP is aimed at redressing the wrongs of the past while giving due regard to the rights of all South Africans. The balanced scorecard can accommodate issues such as the progress of affirmative action programs (Ullana 1996).

\textsuperscript{17} Understanding decision making requires that we disentangle the needs of the decision setting from the structure imposed by the accounting system. Perhaps this problem is best addressed by focusing on manageable slices of the decision-making process. As research identifies the basic decision factors in simple decision-making settings, we can add decision complexity to the models to provide a rich representation of the decision process and the requisite role of management accounting information.

\textsuperscript{18} See Anthony et al. (1992), chapter 13 for a useful overview of the findings of this stream of research.

\textsuperscript{19} The focus has been on issues such as the type of technique within a particular design area (for example, subjective or formula-based reward systems), and the general way in which a technique is used (for example, intensity of use of various management control system features).
<table>
<thead>
<tr>
<th>Issue</th>
<th>Research Direction</th>
<th>Goal of Inquiry</th>
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<tbody>
<tr>
<td>Strategic Decision Making</td>
<td>1. Explore the interaction between management accounting techniques and competitive strategy formulation, implementation and modification.</td>
<td>1. Extend current research by exploring the strategy/accounting interaction at all levels of management using a variety of research approaches.</td>
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<td></td>
<td>2. Develop accounting measures that facilitate the resource-based view of strategy formulation.</td>
<td>2. Broaden the scope of management accounting by exploring the mechanisms by which management accounting information systems can incorporate non-financial or process-based measures.</td>
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<td>3. Explore the interaction between management accounting techniques and functional strategies, such as Total Quality Management and lean inventory production.</td>
<td>3. Develop theory to describe the interaction between resource allocation and management accounting systems.</td>
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<td>4. Explore how management accounting systems/techniques influence the strategic decision making in not-for-profit and governmental institutions.</td>
<td>4. Extend and adapt current research to achieve a better understanding of the broader role management accounting plays in not-for-profit institutions.</td>
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<tr>
<td>Tactical Decision Making</td>
<td>5. Broaden the exploration of the contexts in which tactical decision making occurs, e.g., examine the links between the inventory level decision, work organization and incentive compensation.</td>
<td>5. Model the complexity of the tactical decision process to develop an understanding of the myriad of factors affecting these types of decisions.</td>
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suited to specific competitive strategies. An important behavioral perspective is to understand how competitive strategies affect or determine how organizations use management accounting techniques. Simons' (1990) insights into interactive and programmed uses of management control systems by top management are an initial attempt to deal with these issues. Future work could extend Simons' (1990) work to other levels of management and explore other approaches to understanding how the use of management accounting interacts with the formation, implementation, and modification of competitive strategies.

The resource-based view of organizations (e.g., Amit and Schoemaker 1993; Conner 1991; Peteraf 1993; Wernerfelt 1984) argues that organizations achieve competitive advantages through the resources they command. In particular, an organization achieves a resource-based competitive advantage by controlling a resource that creates customer value and that is difficult to replicate, is long lasting and unique. While conventional accounting assesses the net book value of resources, it does not identify whether the organization can compete using a resource-based strategy. Because of the historical cost-based approach to valuation and conventional accounting's refusal to recognize people as organization resources, conventional accounting may inhibit a resource-based strategy by under-valuing or, in some cases, ignoring critical organizational resources. Exploring the resource-based approach to strategy formulation is a fruitful research area because it requires a major refocusing of how accounting views and reports the organization's assets. For instance, many changes within the organization are based on improving the quality of production processes or customer service. Traditional management accounting systems do not measure value of the "quality resource" directly. Perhaps this setting can also provide a springboard for future research that examines how management accounting can and should adapt to develop non-financial or process-based measures.\(^{20}\)

Concurrently, the level of strategy investigated could be moved beyond the competitive to consider various functional strategies such as Total Quality Management (TQM) and Just-in-Time (JIT). These strategies raise numerous questions about the interaction between management accounting systems and the way resources are organized, but have been the subject of relatively little empirical work (see, for example, Young and Selto 1993). This neglect exists because we lack a specific theory on such interactions. Developing such a theory (see, for example, Wruck and Jensen 1994) is likely to make a significant contribution to the literature.

Finally, research has predominantly focused on industrial organizations. Given the rise of not-for-profit organizations, there is value to studies investigating the interaction between organizational structure and management accounting in public sector and non-profit organizations to determine whether such relationships differ between profit and not-for-profit organizations and the nature, if any, of the differences. This research could consider such interrelated questions as how competitive

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\(^{20}\) This is an example of how the scope of management accounting has been heavily and, by some accounts, unduly influenced by the perspectives of financial accounting and external reporting issues. There is increasing evidence that the scope of management accounting measurement will need to be much wider than it is now to ensure its future relevance. Perhaps this is the basis of an argument to sever financial and management accounting.
strategy concepts could be adapted to these sectors and what other notions of strategy are appropriate to how such organizations organize their resources to achieve their specific ends (Booth 1996). For example, Abernethy and Brownell (1996) adapt Miles and Snow’s (1978) strategic typology to study the interactive versus programmed use of budgets in dealing with strategic change in non-profit hospitals.

**Tactical Decisions**

The use of managerial accounting information for tactical decision making has been and should continue to be a major area for management accounting research. In particular, we need research that expands our understanding of the tactical decision by placing it in a broader context and considering additional forces that affect the decision. We illustrate this argument in the context of the inventory level decision.

Traditionally, inventory decisions were made from models (such as the well known EOQ model) based in operations management (OM). Management accounting provides the needed cost inputs to these models. However, recent times have seen a dramatic shift in the perceived costs from holding inventory. Further, firms recognize that a reduction in inventory holding costs is only one of the gains from reducing inventory levels (see, for example, Barrier 1992). Consequently, inventory reduction has become a common tactical strategy firms use to reduce costs and increase competitiveness (for example, Dertouzos et al. 1989; Hayes et al. 1988; Stalk and Hout 1990). This observed change suggests at least two avenues for research.

First, the interaction between accounting systems and OM models can be explored from a single person perspective. In particular, Datar and Gupta (1994) provide a framework for categorizing errors in product costing systems. However, OM models (e.g., the EOQ model) do not allow for errors in the underlying parameters. An interesting question, therefore, is how different types of errors in accounting systems affect the efficacy of OM models and decision rules. For example, is the EOQ model more robust to aggregation error or specification error? The question becomes more interesting if one also recognizes that decisions made per OM models affect the firm’s total cost and thus accounting’s estimates of the cost of individual activities. Research that explores this interaction is likely to prove very interesting.

Second, from a multi-person, game theoretic perspective, research (see, for example, Alles et al. 1995; Amershi and Datar 1993) has focused on how worker motivation affects the inventory level decision, and how a change to a JIT production system affects management control and incentive systems. These studies find that lower inventory levels make the production process more transparent (management by sight) and, thus, lower the cost of inducing workers to work harder and smarter. Additional studies that examine the links between the inventory level decision, work organization and incentive compensation structure have potential to make significant contributions.
NEW RESEARCH DIRECTIONS:
THE CONFLUENCE OF DIVERSE PATHS

Many academics complain that time pressures prohibit them from reading research outside their immediate research focus. This is unfortunate because many new avenues in research are woven from other methodological perspectives and from other disciplines. New directions and advances in management accounting research depend on researchers actively seeking synergy among differing research methods and disciplines.

The value of using multiple methods, grounded in different paradigms, to understand complex phenomenon is well known. Campbell and Fiske (1959, 83) state that "a common denominator which most validity concepts share...is that this agreement represent the convergence of independent approaches." They go on to cite Ayer (1956, 39) who, discussing a historian's belief about a past event, states that "if these sources are numerous and independent, and if they agree with one another, he will be reasonably confident that their account of the matter is correct." Closer to home, Abdel-khalik and Ajinkya (1979, 20) reflect this belief by citing Denzin (1978, 20) who observed "...no single method will ever permit an investigator to develop causal propositions free of rival interpretations." Complex constructs, including many found in managerial accounting (e.g., performance), also require multiple measures that calibrate differing dimensions of the construct. Work samples, knowledge-of-job tests, ratings of personal discipline, fitness and bearing, and effort and leadership all are operational measures that capture different dimensions of someone's performance (Borman 1991). The balanced scorecard (Kaplan and Norton 1992) too can be viewed as a framework to measure various aspects of firm performance in an integrated and complete way.

Consistent with these views, many of the research directions suggested in the previous sections of this paper have advocated incorporating ideas from different methods and disciplines. This view also is not new to managerial accounting research. Birnberg et al. (1990) provides an excellent discussion of the benefits that have been derived from the multiple methods used to study budgeting. In the compensation arena, Bushman et al. (1995) use the informativeness concept derived from Principal-Agent models to structure their tests. In turn, empirical findings in the compensation practices have spurred theoretical research (e.g., Bainan and Rajan 1995). We further emphasize the importance of the multi-method approach to research by illustrating this concept in the context of activity-based costing (ABC). Our objective in this exercise is to persuade the reader about the value of the cross-method, cross-discipline research approach rather than argue about the merits or limitations of ABC.

21 We agree with Birnberg et al. (1990) that the choice of method is contingent on the research question, the current state of knowledge and the feasibility of a particular research method for a given study. Our intent here is to strengthen this view by providing another example where our understanding of an accounting issue has benefited from the use multiple methods.

22 A narrower example is Berg et al. (forthcoming) who use an experiment to distinguish between psychology-based and economics-based explanations for the so-called "sunk cost fallacy."
Consider the historical pattern of research on ABC. First, researchers undertook case studies, or field visits, to understand practice. This resulted in the concept of ABC. As the concept was new, initial studies focused on developing descriptive accounts of ABC systems. This was followed by the empirical tests of the basic ABC tenants. Surveys addressing the spread of ABC and correlation between various independent variables and ABC adoption started to appear as more and more companies adopted ABC. Then, case and field studies identified implementation problems. Surveys and further case studies addressing the factors affecting success and failure of ABC, as well as analytic work exploring reasons for such outcomes followed this. As implementation problems are unlikely to be explained purely in economic terms, theories from other disciplines have been imported to inform research on implementation. The increasing popularity of ABC has also resulted in research focusing on theoretical underpinnings of ABC systems. This pattern, although simplified, illustrates that the state of knowledge and the questions asked determine which methods and disciplines are likely to provide the best outcome from any research project. Because of the relative advantages of different research methods in addressing a given question in a given time, the collective knowledge gain from these studies far exceeds the sum of the gain from individual papers. The following paragraphs elaborate, and point out the potential for additional research about ABC.

While there are several who argue that the concepts advocated were already known (e.g., Boer and Jeter 1993; Johnson 1992), most people attribute the recent interest in ABC to a series of case studies and articles written by Robert Kaplan and Robin Cooper in the 1980s. More recent articles (e.g., Cooper and Kaplan 1992) emphasize the distinction between the consumption of and the spending on resources as firms attempt to manage costs using ABC data. However, partly because ABC was made popular through the use of practitioner-oriented articles and cases, there was and is a need to explore the theoretical underpinnings of ABC systems, and to empirically test the key assumptions. While most of the theory work (e.g., Balakrishnan and Sivaramakrishnan 1996; Callen et al. 1996; Christensen and Demska 1994; Datar and Gupta 1994; Banker and Hughes 1994) adopts a single-person perspective, there is a need for work

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23 An overriding observation is the committee’s view of the importance of practice in informing, guiding and testing academic work. One of the crucial tools in this regard is field work. Evidence to date suggests that field work is underused in management accounting research and, when it is used, it is used poorly. Steps should be taken to develop field work standards to guide field work in management accounting. Perhaps experience in other social sciences, such as sociology, where field work has a long history, could be used as a guide.

24 Exploring the attributes of costing systems used throughout the world can also enhance developments in ABC. For instance, in Germany, Belgium and The Netherlands, much attention has been devoted to “analytic cost systems” (Bruggeman et al. 1996). This approach is rooted in microeconomic theory, and aims to represent production functions (Boons et al. 1992). Indirect costs are allocated using allocation rules based on causal relationships and reported on “cost distribution sheets.” Comparative research on ABC adoption in U.S. food companies vs. Dutch food companies reveals that the ABC rejection rate of Dutch companies is much higher than of U.S. companies (63 percent vs. 24 percent) (Groot and Van Gool 1996). The difference in rejection rates is attributed to the Dutch impressions that ABC does not provide additional insights compared with the traditional analytic costing accounting systems.
adopter a multi-person view (Banker and Potter 1993 is a notable exception). Empirical studies (e.g., Balakrishnan, Gruca and Nath 1996; Anderson 1995a; Banker et al. 1995; Banker and Johnston 1993; Datar et al. 1993; Foster and Gupta 1990) have largely focused on the assertion that increases in the types and complexity of transactions increase overhead. This focus implies significant value from research (e.g., Noreen and Soderstrom 1993) that examines other assumptions that underlie ABC systems. Other methods for testing theory include the use of simulations (e.g., Balachandran et al. 1996) and experiments (e.g., Berg and Sprinkle 1996).

ABC implementation is another area where studies using differing methodologies provide synergy. Theory on implementation of accounting systems is an area where additional research is called for. From a sociological perspective, the innovation diffusion and organizational change literature (see, e.g., Van de Ven and Poole 1995; Wolfe 1994) could provide the background for studies (for a recent application see Bjørnenak 1997). Within the organization, accounting changes, in particular, ABC, have been very difficult to implement. Argyris and Kaplan (1994) present a behavioral model of why and how employees resist ABC (see also Shields and Young 1989). Current accounting literature (e.g., Scapens et al. 1996; Antle and Fellingham 1995) explains resistance both in economic and behavioral terms. Work on organizational power and politics (e.g., Scapens and Roberts 1993; Markus and Pfeffer 1983) could provide further insight in explaining resistance in the context of ABC. Finally, economics-based theoretical work can explore the links between firms’ incentives to adopt ABC systems and their external (e.g., product-market characteristics) and internal (e.g., organizational structure) environment.

Empirical research (e.g., Malmi 1996, forthcoming; Scapens et al. 1996; Shields 1995; Anderson 1995b; Swenson 1995; Cooper et al. 1992; Cobb et al. 1992; Bhimani and Pigott 1992), on implementation issues could, and should take various forms. Case studies (perhaps experiments as well) could shed light on how decisions concerning the adoption or rejection of accounting innovations are actually made. Comparative case studies, which contrast organizations with similar attributes (e.g., size, industry), but different ABC implementation experiences, could indicate which of the proposed theoretical models best explain resistance. Surveys should also prove useful in collecting data from organizations to test hypotheses derived from various models (Shields 1995). With large databases, companies that have considered ABC but have decided not to adopt it could be contrasted with adopters in order to reveal typical characteristics or combinations of characteristics in each type of company. Such large-sample studies may combine, for example, survey and interview methods for data collection.

25 Abrahmason (1991) discusses the potential of the efficient choice, forced selection, and fad and fashion perspectives to explain the diffusion and rejection of innovations.

26 Resistance emerges as participants experience embarrassment and threat from the new ideas. See Antle and Fellingham (1995) for analytical work based on the principal-agent model that indirectly explains resistance by exploring the distributional consequences of information systems. The explanation in Scapens et al. (1996) centers on routines.
Blending research from across disciplines with management accounting research can also advance knowledge. For instance, contributions from organizational and social theories as recently suggested by Covaleski et al. (1996) have the power to expand the horizons of management accounting knowledge. Given that "conventional wisdom" in management accounting research is based on the perspective of the individual decision maker or information processor, an alternative perspective of embedding management accounting in a wider social context of groups, organizations and society provides meaning to disembodied techniques and recognizes its multiple roles and meanings. For example, the perception of management accounting as a routine links up with the organizational theory of population ecology and the sociological theory of institutionalization (Scott 1995). Similarly, the work teams issue can easily be tied in with sociological theories of resource dependency and institutionalization as a process (DiMaggio and Powell 1991; Hopwood and Miller 1994).

As evident from the above discussion, frontier research is not bound by methodology or by academic discipline. Rather it blends and weaves knowledge from a vast array of sources to enrich theory development and empirical representations of the state of nature. We end by noting that it is quite possible that these cross-method, cross-discipline investigations will produce contradictory results because they adopt differing perspectives about the same phenomenon. We view such conflicts as offering tremendous opportunities for new discoveries rather than as problems. When results conflict it is likely that the issue is more complex than current research anticipated. Exploring the complexity and boundaries of findings adds depth to the knowledge base that otherwise might not have been readily discovered. 27

SUMMARY AND CONCLUSIONS

This committee was asked to define a range of topics that will lead to fruitful research explorations. We have defined three broad themes that have promise for expanding the current knowledge base in management accounting. In addition, we have attempted to illustrate sources of new research ideas that are useful approaches to research regardless of the topic under study.

That output is a function of input should be considered in light of the work of this committee. The members of the committee came from diverse backgrounds and interests. These interests are reflected in the conclusions of the committee and the discussions in this paper. Not every worthy idea could realistically be included here. The committee chose to narrow the focus to broad themes of organizational change, organizational structure, and decision making to provide a coherent discussion of future research possibilities. The goal was simply to stimulate thought and debate concerning possible new frontiers for management accounting research.

27 When different designs or methods yield different results, a methodological boundary condition has been found. In such situations, Brinberg and McGrath (1985, 132) suggest exploring the basic features of the methodologies to better understand the limits or boundaries of the underlying phenomenon. See Schepanski et al. (1992) for such an application to within-subjects and between-subjects design in behavioral accounting research. We thank Richard Tubbs for pointing out this link.
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