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# Strategic features of management accounting systems: an examination of the relationship between practice, research, and education

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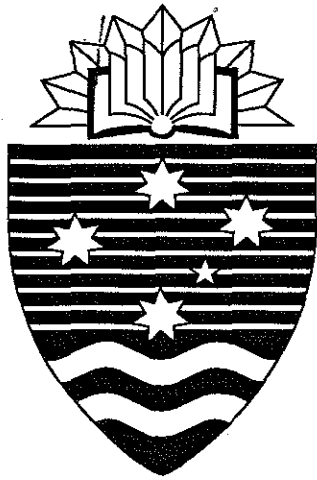
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**"Strategic Features of Management Accounting  
Systems: An examination of the relationship  
between practice, research, and education"**

by

**Ken Moores**

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# STRATEGIC FEATURES OF MANAGEMENT ACCOUNTING SYSTEMS:

An examination of the relationship between practice, research, and education.

by

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## ABSTRACT

Management accounting has been the subject of criticism lately especially for its failure to deliver decision relevant information to managers. Implicated in this failure are not only practicing accountants but also academic accountants who are seen as being isolated from practice. This aspect is especially significant to their roles as researchers. A common theme in all these alleged shortcomings is the neglect of **strategic considerations**. This paper evaluates these claims using a framework suggested by Sterling (1973).

The analysis suggests that if strategy is understood in terms of the prevailing key issues at the time then management accounting has over the years addressed the relevant contemporary strategic issues. But this relevance has diminished over time. Furthermore, a widening schism between academic researchers and practitioners has coincided with this diminished relevance.

The schism has arisen out of lack of communication and has contributed to the absence of any mutual reinforcement in the practice, research, and educational agendas in management accounting. The approach recommended here concurs with Sterling's (1973) advice to teach research results but we go further in suggesting that it is not just the research that needs teaching but the uncertainty breaking, problem solving strategies inherent in research procedures that also need teaching. These processes are likely to be most effective in the classroom when coupled with relevant content and this should be identified from the concerns of practicing management accountants.

*KEYWORDS: management accounting; features of management accounting systems; contingencies; strategy; education; practice; research.*

**COMMENTS WELCOME**  
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# STRATEGIC FEATURES OF MANAGEMENT ACCOUNTING SYSTEMS:

**An examination of the relationship between practice, research, and education.**

Management accounting has been subjected to considerable criticism lately. It has been suggested that the **practices** of management accountants in industry are responsible for the loss of firm competitiveness especially in manufacturing industries; that the **research** undertaken by academic management accountants is out of touch with the realities of business; and that the **education** provided for aspiring management accountants is deficient as preparation for a professional career in contemporary business.

A common theme in all these alleged shortcomings is the neglect of **strategic considerations**. Practicing management accountants have been preoccupied with reinforcing a short-term orientation through the development of systems that focus on short-term measures rather than longer-term strategic issues. This orientation is especially evident in managerial performance appraisal systems. It has been suggested that the fundamental accounting period notion, so central to accounting systems, has thwarted a much needed long-term focus on the part of management (Hayes and Abernathy, 1980). Traditional cost accounting systems have also been criticised for not promoting quality improvements and manufacturing flexibility (Kaplan, 1983).

Many of these observations have their origins in cross-cultural comparative analyses of management practices. In particular, an Asia-Pacific issue has emerged from the contrast of Japanese and American management practices in an endeavour to explain the loss of competitiveness of US manufacturing firms (Daniel and Reitsperger, 1991). Significantly these evaluations have implicated management accountants for their inability to provide relevant information. Pabst and Talbott (1991 pp.31-37) noted,

*"During the past decade the United States manufacturing environment has experienced tremendous change. As evidenced by the current literature in the area, however, the management accounting function in U.S. manufacturing firms has not kept pace and has been pilloried recently for a failure to provide relevant and timely information for management decisions."*

This concern with management accounting practices has not been confined to American industry but has instead rapidly escalated to almost a global issue.

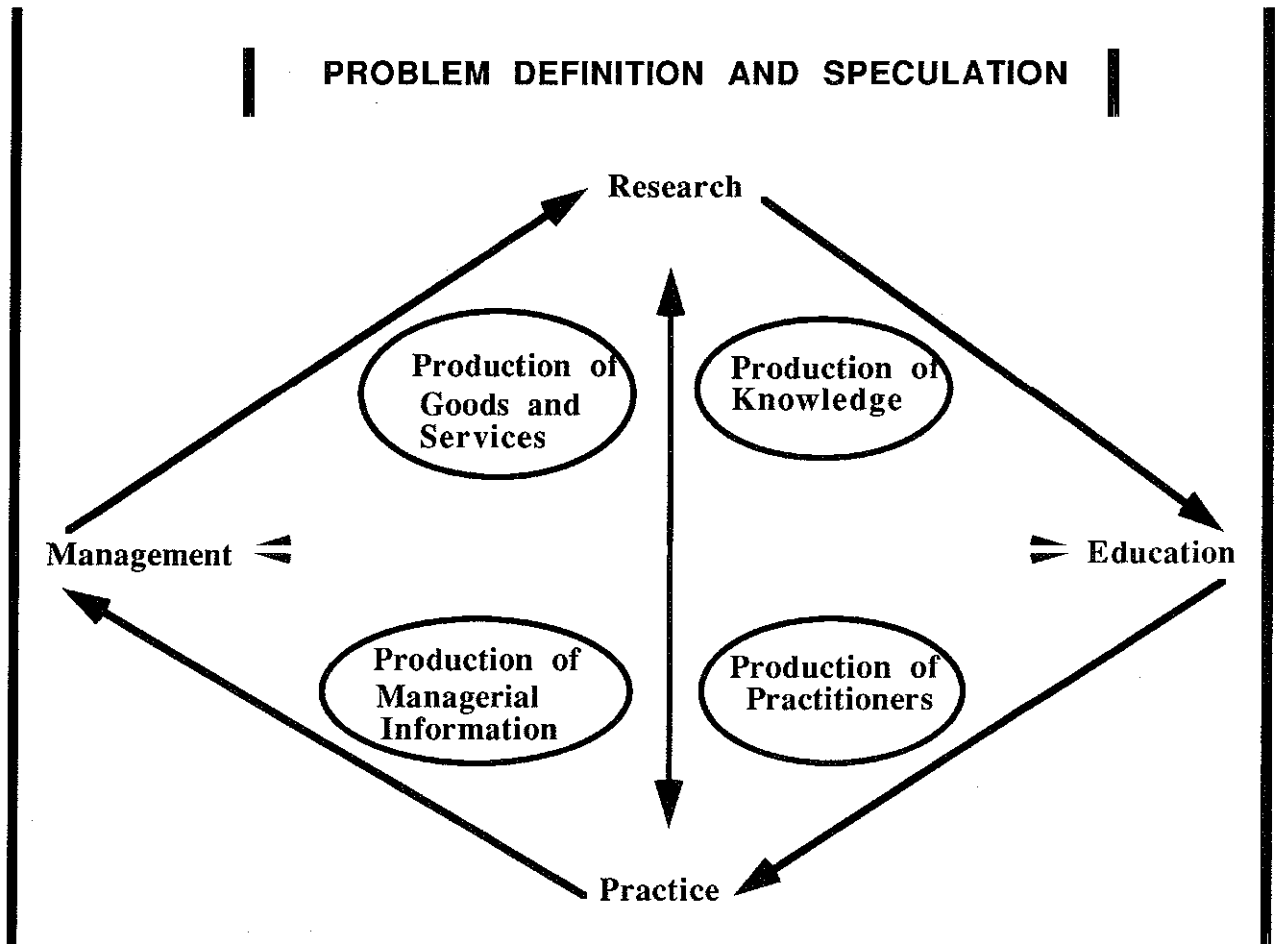
The academic community too has not escaped censure. Researchers have been rebuked not only for their selection of research topics but also for the manner in which these topics have been investigated (Otley, 1980; Kaplan, 1983). Recently researchers have been more influenced by stylized models of managerial and firm behaviour than by the real strategic concerns of managers (Kaplan, 1984). The lack of emphasis on management accounting in general and the absence of strategic topics from accounting curricula and textbooks in particular has also drawn criticism (Pabst and Talbott, 1991; Shank, 1989).

While there is perhaps undoubtedly room for reform it is not clear how extensive has been the neglect of strategic issues by management accounting over the years. The purpose of this paper is to evaluate the strategic features of management accounting systems and consider how those features have influenced, or have been influenced by, the research and educational agendas that have prevailed over time. While the primary focus will be on recent practice, research, and curricula, I will draw upon published historical analyses to identify changing emphases over time and to help distil recommendations.

## **PROBLEM DEFINITION AND SPECULATION**

These observations suggest that both the practicing and academic communities are not meeting the needs of their immediate clients. Furthermore, a possible explanation for the problem often tendered is isolation of the academic community from practice: the so-called gap between theory and practice (Scapens, 1990). Such isolation exacerbates the problems of the academic community in meeting the needs of its education clients and adds to the difficulties practicing accountants have in meeting the needs of managers.

The problem can be represented as the absence of harmonious links between the constituent elements: research, education, practice, and management. Adapting from Jamous and Peloille's (1970) analysis of the medical profession, we can identify four distinct production activities undertaken by these constituent elements. Figure 1 outlines the relationship between the elements and their production activities .



**FIGURE 1**

### Relationship Between Constituent Elements

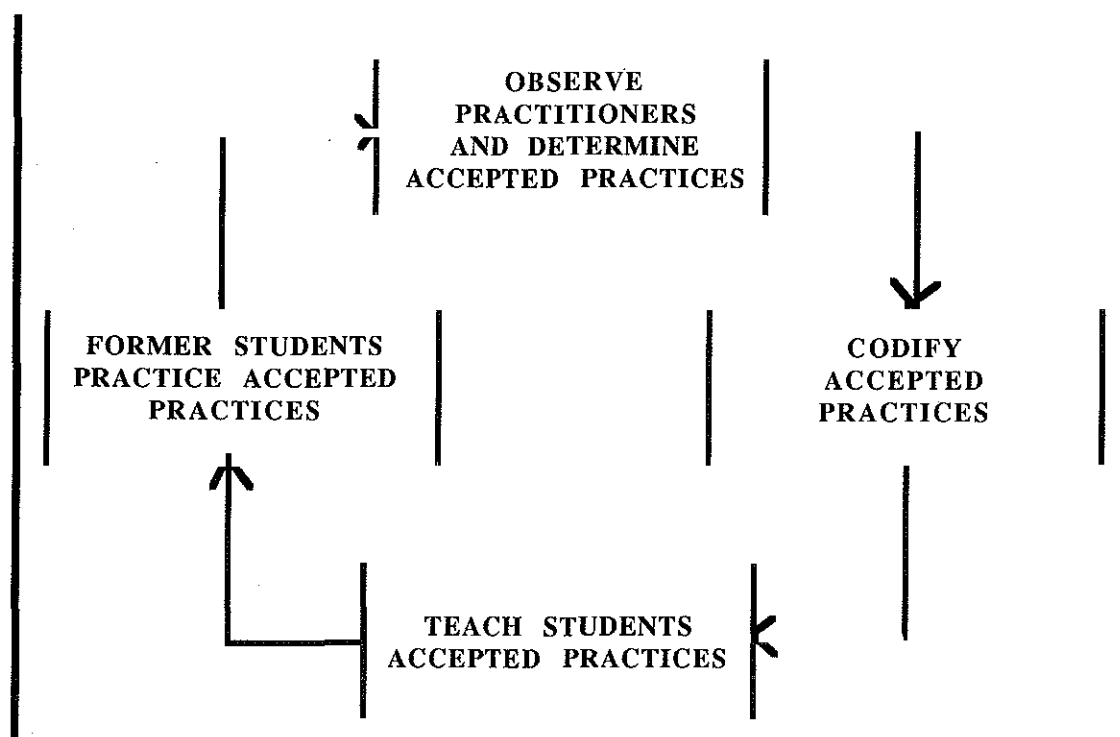
This current "crisis" in management accounting suggests not only a gap between theory and practice but also between practice and the managerial users. But before we can understand why the research, practice, and educational agendas are what they are we need to know something of a profession's constituent groups and their relationships.

### FRAMEWORK FOR ANALYSIS

Some twenty years ago Sterling (1973) felt there was need for reform in financial accounting. In seeking an approach that would enhance the chances of instituting reforms Sterling (1973) examined the interrelationships between accounting research, education, and practice. There is a marked similarity in the nature of the current concerns expressed about management accounting practice, research, and education and those noted earlier by Sterling (1973) about financial accounting. Accordingly consideration of his approach is instructive.

Sterling (1973) observed a lack of congruence between research in accounting, classroom instruction in accounting, and professional accounting practice. He noted that not only had these differences existed for over thirty years but that some educators/researchers had reinforced them by advocating different stances on issues in the classroom than they recommended in their own research publications. In seeking to understand the persistence of these differences he sought insight from political science concepts. The presence of differences will not necessarily result in conflict. The potential for conflict arises only when there is contact between parties with differences. But equally such contact may also engender harmonious compromise and complementarity. Now while the absence of contact can ensure no conflict more significantly such isolation also prohibits compromise and complementarity.

According to Sterling (1973), at that time the thirty-year tolerance of differences between the research, education and practice parties involved in accounting arose more from isolation than from harmony. More specifically the isolation of research from the education-practice alliance. He asserted that the absence of conflict between education and practice was due to harmony engendered mainly by *"educators' predilection to prepare students for practice; we educators teach our students acceptable practices so that they can get jobs."* He represented the process as Figure 2:



**FIGURE 2**

**Sterling's Accounting Education Process**

According to this view it is practice, not education or research that brings about change. That is, practitioners add to their store of accepted practices and then educators observe, codify and teach these additional accepted practices.

Following consideration of an illustration based on the valuation of marketable securities Sterling (1973) concludes:

*"Education and practice seem to be complementary in that educators teach accepted practice and practitioners accept and practice what they are taught."*

Is there any evidence to support these claims of the isolation of research from practice? Or could it be that there is contact that is characterised by difference and conflict? Furthermore, is there any evidence that management accounting innovations stem from practitioners?

## **SCHISMS: Evidence of Conflict and Isolation**

When relationships between the constituent groups of a profession become strained by conflict such rifts are labelled "schisms". Bricker and Previts (1990) identify some important twentieth century schisms that have emerged within the American accountancy profession. The early schisms involved competing practice groups but more recently a schism has emerged between the practice and academic communities.

Acknowledgement of this schism led the American Accounting Association to establish a Schism Committee in 1979. The Committee concluded that professional faculty credentials, research, and communication of research findings were all less practice oriented, and stated that these trends *"if unchecked for another ten years....could be serious"*. Five years later Mattessich (1984) noted that the schism had not been checked but was in fact widening:

*"There is presently an urgent need to bridge the constantly widening gap between accounting research and professional accountants... the situation has become so incongruous that a good deal of this literature is inaccessible (to professional accountants)".*

More recent evidence has surfaced from both sides of the divide. In 1989, the then Big 8, in their Perspectives on Education: Capabilities for Success in the Accounting Profession report,



noted "*accounting has a persistent schism problem*". While a recent AICPA survey of members in education indicated that the most important problem facing CPAs in education is the fact that academe has become too divorced from the accounting profession, that much accounting research currently conducted bears no relevance to "real world" accounting and that educators often lack interaction with practitioners.

The present schism has been characterized by a popular perception of a lack of common interests between members of the academic and practice communities. According to Bricker and Previts (1990) the present schism originated "*with a fundamental change in the nature of the academic accounting environment that occurred in the 1960s*". This change they attributed to three factors:

1. The growth in numbers of students seeking accountancy degrees during the 1950s and 1960s;
2. Increased proportion of accounting faculty holding both full-time appointments and a research doctorate;

and,

3. The added demand for more highly educated practicing public accountants.

It would appear that differences between the academic and practitioner communities in accounting have become more pronounced in the twenty years since Sterling (1973) presented his views. It should be remembered however that Sterling (1973) suggested it was only in their capacity as educators that the academic community had harmonious contact with practitioners albeit in his view this relationship needed change. It was the academic community's research role that was isolated. This suggests that perhaps recent consolidation of the teaching and research roles may have engendered more conflict in the contact.

Now it is fair to say that it is not management accounting alone that is responsible for the creation of this schism. But the practices of management accounting researchers, like those of their financial colleagues, have contributed to the divide from their counterparts in industry.

I will now examine the changing environment of management accounting highlighting the source of innovations over time.

## CHANGING ENVIRONMENT OF MANAGEMENT ACCOUNTING

To organise any discussion of the historical evolution of a professional endeavour it is convenient to identify periods of time or eras. These can be chosen somewhat arbitrarily or indeed major historical events can often mark the beginning and end of eras. The periods I have chosen have been suggested by others and lend themselves to a convenient partitioning of history. This brief review considers an agricultural era (the period to 1875) followed by an industrial era (two fifty-year periods 1875-1925; 1925-1975) and then the emergence of today's information era (1975 to the present).

**Agricultural Era (Pre 1875):** It was from the nineteenth century environment of agricultural economies and small capital markets that both accountants in industry and those who taught accountancy first emerged. While professional accountancy did not exist due to a very limited demand for such services the situation was different for internal accounting. The demand for information for internal planning and control arose in the first half of the 19th century when firms had to devise internal administrative procedures to coordinate the multiple processes involved on the performance of their basic activities (Kaplan, 1984).

Accounting instruction primarily took place in proprietary schools and the founders of mercantile schools constituted the earliest accounting academic community; they produced texts and at times broke new theoretical ground. Even as early as this there were the beginnings of distinctions between accounting academics and practitioners and disagreements did occur.

**Industrial Era I (1875-1925):** During this period environmental changes conducive to the development of management accounting occurred. Large investor driven capital markets were developed and managers replaced owners as the operators of large businesses. Consequently accounting needs were driven by managers, proprietors, and bankers. This was arguably management accounting's golden age; one dominated by the agenda of practice. It was the period in which most of the today's cost accounting and management control techniques were developed. According to Chandler (1962 and 1977) cost and management accounting greatly supported the growth of large transportation, production, and distribution enterprises during the 1850-1925 period. That alone suggests that the practice of management accounting at this time was in accord with the needs of users and generally supported them in their pursuit of strategic growth objectives.

The emergence of decentralized organizations during this period was especially significant to the development of management control. The decentralized, functional organization required a performance measurement system to motivate and evaluate departmental performance and to guide overall firm strategy. Management accounting practice responded to meet these

management needs by developing sophisticated systems. As reported by Kaplan (1984), the General Motors system was particularly innovative in that it included annual operating forecasts, flexible budgets, formal capital budgeting, target pricing to yield desired ROI, market-based transfer prices, and incentive and profit-sharing schemes. What is perhaps more important is the way these systems were used. The goal of GM was to earn an average satisfactory ROI over an entire business cycle, not merely to achieve annual increases in earnings. The pricing formula also provided a powerful link between a division's short term operating plan and top management's financial strategy. Again it would seem as though the strategic support offered by management accounting was strong during this period.

It was during this period that university instruction in accounting began. In 1881 the Wharton School of Economics and Finance opened in which the first accountancy course was taught in 1883. These schools were closely linked to the profession especially through their staffing. The New York University School of Commerce, Accounts, and Finance opened in 1900 with a Dean who was also a partner in the firm of Haskins and Sells. But it was not long before it was recognized that there was need for different skills in academe. An early Dean of the NYU school commented upon the difficulty in finding qualified faculty by observing:

*"Those who knew it, couldn't teach it, and those who could teach didn't know it".*

In 1905 the Journal of Accountancy was inaugurated but there was little evidence of a research tradition as we now know it today in these university-based schools of commerce, business, and accountancy. The more academic journal, The Accounting Review was first published some years later in 1926.

In 1916 the American Association of University Instructors of Accounting (AAUIA) was formed and the American Assembly of Collegiate Schools of Business (AACSB) was established. The AACSB was quick to specify standards for programs in business including faculty requirements (e.g. doctorates required for full professors). According to Bricker and Previts (1990, p6)

*"The fact that the AACSB sought to develop program standards as an integral part of their early activities would loom large in the educational environment of educational program development for accountancy in the following half-century."*

Notably during this time there is evidence that members of the academic community acted defensively to practitioner involvement in academe as well as to questions about its own role.

The academic community became vocal in its opposition to what it regarded as an unwarranted intrusion by the practice community into educational matters.

**Industrial Era II (1925-1975):** While the collapse of the securities market in 1929 and the depression of 1930s dominated the environment of financial accounting it was the continued search for greater production efficiencies that remained as the pre-eminent strategic concern for managers in the early years of this era. Accordingly, understanding how production costs behave under the increasing volumes that were being achieved with market dominance was a strategic concern of managers. The academic community responded to this need but despite some developments here few of their innovations had any impact on practice.

In later years, larger production volumes of standardised products led to greater mechanisation. This increased capital intensity made the selection of capital items a strategically important decision. Again management accounting responded with the development of capital budgeting techniques especially during the 1950s. Although it is worth noting that the present value criterion took some thirty years before it was adopted in practice to any significant extent. This control of the major technologies in their products and processes, together with the market dominance they enjoyed, led American manufacturers in 1950s and 1960s to expect little change in the demands of their customers. With such low environmental uncertainty the strategic concerns for managers then were internal efficiencies and not surprisingly this is where management accounting effort was applied.

There was however disquiet on the education front during this period. The report of the Commission on Standards of Education and experience for Certified Public Accountants concluded in 1956 that "*formal education was more important than practical experience. This represented a major departure from previous thinking.*" Also there was emerging "*dissatisfaction with the narrow and technical content of business programs, including accountancy....*" The Pierson and Gordon and Howell reports in 1959 both argued for increased emphasis on general education instead of the technical approach then found particularly in accountancy programs.

Coinciding with these calls for more general education came the need for accounting academics to develop stronger research orientations. Much of the research which underlies the conventional wisdom of management accounting as reflected in texts and courses was undertaken in the 1950s and 1960s particularly in the United States. The fact that much of this research was undertaken using restrictive assumptions reinforced the schism originated some years earlier.

**Information Era (1975-present):** The environment in which contemporary organizations operate is characterised by change and uncertainty. More intense international competition, diversification of customer needs, shorter product life-cycles, and automation of factories are just some of the factors creating this environmental uncertainty especially for manufacturers. A familiar response has been to appeal to all employees, including factory workers, to think while they work. That is, in an information era business everyone becomes a knowledge worker: a manager needing information. Accounting needs are thus being driven by a larger constituency than managers, proprietors, and bankers.

This environmental uncertainty is in marked contrast to the assumptions that underlie the conventional wisdom of much of today's management accounting. Management accountants have normally assumed a stable corporate environment when developing a company's MAS. Johnson (1990) referred to this approach as "taking constraints as given" as distinct from "moving constraints". Such conventional approach is constrained optimization and has its origins in the scientific management movement of the 1920s. Today such static optimization is often irrelevant.

According to Hiromoto (1991), today's manufacturers need a new MAS that promotes strategic management and focuses on motivating employees to act strategically. As he sees it the current challenge for management accounting is to build a constant awareness of strategic messages in every nook and cranny of the company, assuring that employees will be involved in unified innovative activities and thus facilitating the enactment of corporate strategies. To this end he notes, based on intensive field studies at successful Japanese manufacturing firms in several major industries (automobiles, semiconductors, and consumer electronics) that,

*"The management accounting being performed by top Japanese manufacturers today shows a new common focus or theme that represents a departure from what was observed in the past. They are showing us a path to take to restore the relevance of management accounting. Their management accounting systems (MAS) reinforce a top-to-bottom commitment to process and product innovation...In Japan, management accountants work hard to link their MASs to their companies' strategies for innovation. In this regard there has been more frequent use of nonfinancial measures."*

Hiromoto (1991)

Today's innovative MASs are designed to support continuous innovation, which is a new common theme of MAS design <sup>1</sup>. The four elements of this theme according to Hiromoto

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<sup>1</sup> This section draws upon Hiromoto's (1991) comparative analysis of management accounting systems.

(1991) are a behaviour influencing focus, and a market-driven, dynamic, and team-oriented approach.

**A Behaviour Influencing Focus:** Management accountants need to change their focus in designing their systems from an information-for-decisions to a behavior-influencing focus. The information-for-decisions approach was stressed because management accountants wanted to recommend the optimal decision, even though the final choice always rested with the operating managers. On the other hand, the primary concern of the behaviour-influencing approach is to design a system to influence employees to do the desired things. Instead of trying to provide a true and accurate cost and an optimal solution such a system allows employees to be creative and resourceful. e.g dcf models could be used to help focus, identify and analyze critical input assumptions or project assumptions including possible scenarios and management responses and risks, rather than to solely assist managers' choices. But it needs to be recognized that the reason Japanese practice is often simple can be explained by the widespread emphasis on consensus decision making.

**Market Driven Management Systems:** Market-driven management is a way of management thinking that gives priority to market or customer requirements over technological limitations. It stresses the continual improvement of technology rather than the optimal behaviour under current technological conditions. Why learn to optimise under condition A when that condition will change either by outside forces or by our own initiatives. Hiromoto (1991) stresses that a market-driven system is not marketing driven. Under this view we think of the firm as an interface between a technology and its market. Business activities should be undertaken in harmony with both technological conditions and market needs.

Apart from emphasizing that all employees stay close to their customers and adopting appropriate structures, a market-driven management approach requires measurement and control systems designed to motivate such behaviour. As such the management accounting for motivating market-driven behaviour that is most typically conducted at Japanese companies is based upon target costing at the pre-production (or development and design) and production stages. Under the target cost system, activities are controlled by using a target or market-based allowable cost that has to be realized if the company is to be profitable in the competitive market, and comparing it with the actual or actually expected cost. Such an external focus was advocated in the research literature by Simmonds as long ago as 1980.

**Dynamic Approach:** Management accountants have traditionally used the static approach to designing and using their management accounting systems. Emphasis was on performance for the individual time period, which is analogous to focus on improved efficiency in each department. Today's management accounting systems must be dynamic. Performance has to be

judged over time without emphasis on individual time periods. Because innovation is a learning process, good management accounting today should help the organization to learn by stressing progress of performance over time.

**Team-Oriented Approach:** Specialization of function, which is a heritage of Taylor's scientific management is surely necessary, but within reason. Currently corporations are overspecialized. Excessive specialization has led to a situation where independent activities 'pass the baton' to get the job done. A team-oriented approach requires that management accountants facilitate the bringing together of all knowledge and experience in the organization; this is how they can contribute to solving management problems. Some years ago Flamholtz (1975) also stressed the need for management accountants to recognize that most managerial work was a joint effort and not performed by individuals.

In contrast to these US-Japan comparisons of management accounting practices, Bromwich and Bhimani (1989) reported important changes in the nature of UK management accounting practice despite not finding any major changes in systems and techniques. Apart from being more integrated into the functional areas of business they found that management accountants were more directly involved in day-to-day decisions through the provision of informal/non-routine information, and that there was an increased awareness of the need for management accountants to be outward looking and to report non-quantitative information.

The academic environment during this period experienced heightened research expectations. In an effort to explain and ultimately predict management accounting phenomena scholars have utilized theoretical frameworks. Over recent years a variety of frameworks have been adopted but that known as contingency theory has emerged as an influential framework since it first appeared in the accounting literature in the mid 1970s with studies by Bruns and Waterhouse (1975), Watson (1975), Sathe (1975), Gordon and Miller (1976), Ansari (1977) Daft and MacIntosh (1978) and Waterhouse and Tiessen (1978).

The central propositions of contingency theory assert that organizational effectiveness is a product of an appropriate matching between internal organizational characteristics and the demands created by elements of context such as technology and external environments. Notwithstanding the dominance of this framework it has however a number of acknowledged shortcomings. Otley, as long ago as 1980, reiterated in the accounting literature the shortcomings identified in the organization theory literature. These criticisms as they apply to MAS may be categorized as concerning the inadequate specification of the control model within which MAS are embedded, imprecise conceptualization and measurement of variables used to specify context, and a dominance of cross-sectional survey methods at the expense of longitudinal case research (Moore and Chenhall, 1991).

To overcome these shortcomings contingent-theoretic research in the 1980s has concentrated on refining research methods and adding variables such that it could be concluded that progress has been achieved. Not only have cross-sectional methods been improved (see for example Haka, 1987; Kim, 1988; Duncan and Moores, 1989; Mak, 1989; Moores and Duncan, 1989) but also researchers have begun advocating and using longitudinal case study methods (see for example Eccles, 1985; Bruns and Kaplan, 1987; Ansari and Bell, 1991; Cooper and Kaplan, 1991). Coinciding with the search for more explanatory power in contingency models via the inclusion of additional variables has been the increasing emphasis given to strategy as a factor affecting other variables such as structure, technology, and size known to influence MAS.

## FEATURES OF MAS

The early conceptual contributions of Gordon and Miller (1976) and Amigoni (1978) recognised that MAS have both form and content "features" or characteristics. Amigoni (1978) in particular stressed how these were likely to interact in that environmental and structural factors would determine the desired form features of the MAS and that these features could be designed into a system by the use of particular control tools. While the studies referred to include the study of both form and content features the nature of any interaction between the two has yet to be subjected to empirical investigation. The content may be characterised as relating to strategic, managerial and operational areas of management (Anthony, 1964; Anthony and Dearden, 1980). While MAS involves many linkages between these categories (Puxty, 1985), this taxonomy is useful in classifying the features of MAS studied by management accounting researchers.

Early management accounting research was concerned with cost accounting that focused on operational management issues. The developments that were prompted by the organizational structure changes of the 1920s saw research shift to management control issues. Early contingency research in management accounting was also primarily concerned with the area of management control. For example researchers have studied the contingent design of operating budgets (Giroux et al, 1986; MacIntosh & Daft, 1987), budget related behaviour (Kenis, 1979; Merchant, 1984; Abernethy & Stoelwinder, 1991), budgetary participation (Brownell, 1982), budgetary slack (Merchant, 1985), budgetary biasing (Lukka, 1988), zero based budgeting (Gordon et al, 1984; Williams and Hinings, 1988), the budget cycle (Giroux et al, 1986), sophistication of control systems (Khandwalla, 1972; Jones, 1985), characteristics of information (Gordon and Narayanan, 1984; Chenhall and Morris, 1986), and operating budgets, statistical reports-operating procedures (MacIntosh and Daft, 1987).



Despite this concentration on management control issues a concern for strategy and its implications for MAS operation and design has featured in contingency-based research (Dent, 1986). Strategy, according to Hofer and Schendel (1978), *"is the fundamental pattern of present and planned resource deployments and environmental interactions that indicate how the organization will achieve its objectives."* Early contingency studies found that the type of competition in a firm's industry (Khandwalla, 1972) or the uncertainty in the environment was associated with increased use of MAS. Environmental uncertainty in particular has been found to affect the perceived importance of MAS form features. High uncertainty decreases the utility of the objective, quantitative, historical measures of traditional accounting information and increases the utility of future-orientated, external, non-financial, and timely information (Gordon and Naranayan, 1984). Such scope and focus are congruent with the needs of strategic management.

Other strategy-related examples include the design of MAS for the various stages of capital budgeting (Gordon and Pinches, 1984), the use of discounted cash flow techniques for capital budgeting (Haka et al, 1985; Haka, 1987), the role of MAS for entities pursuing manufacturing strategies such as flexibility, quality and delivery (Kaplan, 1983, 1990; Johnson, 1988; Shank, 1989), the nature of MAS for firms following different strategic orientations such as harvester or prospector (Govindarajan and Gupta, 1985; Simons, 1987; 1990; Dent, 1990) and the sophistication of MAS for firms at different stages of their life cycle (Moores, 1990).

This identification of a firm's strategic orientation and how it affects the way in which MAS are developed is based on the examination of how firms adopt particular competitive strategies to position themselves within their environments. Notions of strategic orientation have been derived from the findings of Mintzberg (1973) who classified strategy as either entrepreneurial, adaptive or planning mode; Miles and Snow (1978) who identified defender, prospector, analyzer and reactor strategic archetypes; and Porter (1980) who dichotomized strategy into overall cost leadership, differentiation and focused market or niche strategy.

Miller and Friesen (1982) found that comprehensive controls were positively associated with innovation in conservative firms but a negative association was identified for entrepreneurial firms. However, Simons (1987) found that high performing prospector firms seemed to attach a great deal of importance to forecast data, the setting of tight budgets, and the careful monitoring of outputs. On the other hand, defenders, particularly large firms, appeared to use their control systems less intensively. Simons' (1990) study extended prior analysis by considering how various parts of the MAS help resolve strategic uncertainties in firms following either a cost leadership or product innovation strategy. He found that a studied firm that faced strategic uncertainties due to rapidly changing markets used planning and budgeting interactively to set agendas to debate strategy and action plans, while a firm following a low

cost strategy within relatively stable environments used the MAS in a programmed rather than interactive way. Govindarajan and Gupta (1985) examined the links between strategy, reward systems and effectiveness. They concluded that long run evaluation criteria and subjective, non-formula bonus calculations are effective for business units following a build strategy, but not for business units following a harvest strategy. Recent calls for the development of strategic cost management are based on the perception that traditional systems are inadequate in providing information to assist in developing manufacturing strategies that enable the firm to compete on quality, reliable delivery, flexibility as well as low cost (Kaplan, 1984; Shank and Govindarajan, 1989).

An important aspect of research into strategy is the assumption that the design of MAS is not simply determined by contingent forces. Rather, the research underscores the dynamic process between contextual factors and strategic positioning, and the way systems evolve interactively with strategy as the firm positions itself within its environment. More specifically, an important conclusion is the potential role for MAS, for firms following prospector strategies, to focus attention on tactics and targets and the strategic imperatives generated within competitive markets. More defensive strategies appear to have a more internally focused MAS relying on more traditional programmed approaches.

**Summary:** It would appear from this brief history that there has been positive interaction between the constituent elements of research, education, practice, and management over the years. Furthermore, there is also evidence that management accounting practitioners and researchers have not neglected the strategic management needs during this evolution. But what is also evident is that this interaction has diminished. A result of this, according to Kaplan (1984), is that the innovations from practitioners in industry have proved to be more significant influences in the evolution of management accounting than those from academic writers. He noted,

*"The period since 1925 has not been devoid of interesting developments in cost accounting and management....But these developments have been primarily by academics and, with few exceptions, have had relatively little impact on practice."*

(Kaplan, 1984 p401).

## DISCUSSION

This present schism is characterized by a diminished sense of communication and fundamental differences in interests between academics and practitioners. For the research community the

preference for internal validity at the expense of external validity sacrifices relevance for reliability. However some of the responsibility for this state rests with practitioners and firms, who have been reluctant to disclose data about their operations which for management accounting researchers is especially significant. This leaves researchers isolated with often little option but to focus on the method instead of the problem.

Another suggestion is that the present schism may also be attributed to the differences in the mode of achieved education as between the academic and practice communities. The efforts of the accountancy profession to establish requirements for a better educated practitioner and a community of scholars, admirable though they have been to date, still trail in comparison with learned professions, particularly medicine and law. In medicine, the entry level academic degree and the entry level practice degree is a professional doctorate earned at a professional school. This common educational background provides a basis for establishing common views and values, socialization in the community, and opportunity for collegiality and communication. Such is not the case in accountancy (Bricker and Previts, 1990).

Interestingly both Sterling (1973) and Mattessich (1984) drew upon the experiences of the other learned professions in seeking solutions to the current schism in accounting. Mattessich (1984) argued that *"the present schism could be surmounted if accounting research more closely followed the applied science models of medicine and engineering."* In much the same way as with those other professions, the practice of accountancy also approximates an art which relies upon the research findings and knowledge acquired from education as well as experience. This suggests that as an applied field-science and a learned profession, accountancy's academic community should derive research questions from a socially responsible view of the scope of services which the discipline offers to society.

Research as an organized activity in universities was an unknown during first half of the 19th century when they instead concentrated on the teaching function. However during the second half of the 19th century British universities began to think of research as an activity complementary to teaching. By about 1875 the relationship of medical research, education, and practice became:

$$1. \quad R(x) \rightarrow E(x) \rightarrow P(x)$$

That is, if researchers found  $x$  then students were taught  $x$  and upon graduation they would practice  $x$ . Former students were also informed of research results through less technical articles published in practitioners' magazines. However Sterling (1973) suggested that the chain in accounting is:

2.  $P(x) \rightarrow E(x) \rightarrow P(x)$

in which  $x$  is practiced, therefore students are taught  $x$  and upon graduation they implement  $x$  in practice. The problem with this chain is that it prohibits progress. Sterling (1973) also recognized the influence of management upon accounting practices by observing that "they have sufficient power to implement their desires". Introducing this management factor suggested a chain:

3.  $M(x) \rightarrow P(x) \rightarrow E(x)$

If management desire  $x$  to be an accepted practice, then  $x$  will become an accepted practice and educators will teach that  $x$  is an accepted practice. He contends that examples of this management influence at the time were made possible by the lack of agreement among public accountants.

Sterling (1973) contends that the solution is immediately obvious: adopt chain 1 and begin teaching research results. A frequently cited objection to the teaching of research results is that students need jobs, and, in order to get jobs, they need to know accepted practices, not research results. This is true, but to teach accepted practices to the exclusion of research results creates more problems than it solves. Perhaps we can teach both. If we teach research results, there will be a complementary relationship between research and education. Sterling (1973) opts for the inevitable conflict that will result from this course of action as being preferable to isolation for two reasons: firstly, he has faith in research and secondly, the conflicts that come out of this contact may be beneficial.

But it is clear that if we choose to continue research, then we must connect it to education and practice. To find the solution to a problem and then fail to teach it or practice it is to fail to solve the problem. To solve a problem the solution has to be implemented. This requires that research be in contact with education and practice. If the outcomes are in conflict, so be it. If an accountant has been taught only accepted practices, and especially if he identifies accepted practices with theoretically correct practices, then he will not recognize a conflict. In the absence of such conflicts research and practice will not reinforce one another and no progress will be made.

Is the situation concerning management accounting in the early 1990s as Sterling described for financial accounting in the early 1970s? That is, what has been the chain of interrelationship in management accounting especially for the case when  $x$  is the strategic features of management accounting?

The evidence over time suggests that the schism has been exacerbated by the isolation of the academic community's research agenda from the practice agenda. In fact the evolutionary pattern in management accounting is largely as Sterling described the situation in financial accounting some twenty years ago save that the educational and practice agendas are now not as closely aligned as they previously were.

## RECOMMENDATIONS

At the commencement of this paper I couched the issues in terms of the two communities apparently failing to meet the needs of their immediate client groups and that this might be attributable to the isolation of the academic community from practice. In the light of the evidence presented here that at least suggests there is room for improvement, how then can we change the process of setting the management accounting agendas in practice, research, and education so as to alleviate these problems?

In terms of Sterling's representation of these relationships it seems that while practice needs to be responsive to the needs of management the experiences of other professions suggests that these needs will be better met by practitioners working jointly with the an academic community. That is, the research and educational agendas are embedded in the relationship between accountants and managers. This can be represented as:

$$M(x) \rightarrow R(x) \rightarrow E(x) \rightarrow P(x)$$

This highlights a practice agenda [ $M(x) \rightarrow P(x)$ ] along with the primary concerns of the academic community: the research agenda [ $M(x) \rightarrow R(x)$ ;  $R(x) \rightarrow P(x)$ ]; and the educational/teaching agenda [ $R(x) \rightarrow E(x)$ ;  $E(x) \rightarrow P(x)$ ]. Our interest in this paper lies primarily with those agendas that concern an academic community. But it is worth noting briefly the findings of Bromwich and Bhimani (1989) as they are consistent with our analysis and suggest the essence of the practice agenda for management accountants. Notably their findings relate to *communication*, and both the *form* and *content* of MAS. They recommended that:

management accountants need to improve their informal communications with functional managers by learning the language of operational activities;

that companies improve their flows of non-financial information; and



was seen from the slow adoption of some innovations in the evolution of management accounting. But it would seem that the lack of communication between the academic and professional communities has contributed to this slow adoption and diffusion process in management accounting.

The research and teaching differences are now more pronounced in management accounting than in financial accounting and auditing. Managerial accounting has practically no regulation and as a result researchers in this area must motivate their research by identifying substantive issues on their own. Researchers in financial accounting and auditing can often establish the substantive nature of their research studies by merely relating them to regulatory issues. Research in the last twenty five years in financial accounting has been largely driven by the regulatory environment. Consider how the topics examined in information content studies were influenced by the standard-setting agenda. The positive accounting research agenda is largely predetermined by this regulatory environment.

A further difficulty for managerial accounting researchers is the fact that no data bases exist to facilitate empirical research across firms or across firms' divisions. Those who wish to do empirical work in the area must obtain their own data through field studies or laboratory experiments. There are various types of validity problems facing both these strategies and this is why to a certain extent that much current research in management accounting is analytical, being grounded in agency theory (Dopuch, 1989). But it is worth noting how the actions of auditors, and their funding campaign begun in 1976, affected the direction of auditing research. I have not heard claims that the auditing research agenda has in any way been compromised by this close contact with practice.

This is not a case of research following practice, seen by some (e.g Sunder, 1991) as the cause of our current problems, but rather the setting of the research agenda in a professional field from the concerns and issues of practice. In this way it is the research strengths of the academic community that are drawn on to help advance the knowledge base of the profession through application of their specialised expertise. Some others however would have the accounting research agenda being justified principally with respect to the educational mission. That is, research concentrating on the creation of knowledge of potential use to students in developing their capabilities for practice (Elliott, 1991).

On the question of the communication of research it is not really the readability of accounting research that is the problem as the main conduit for carrying research and innovation into practice is the classroom not research journals. The integration of research into the curriculum disseminates research results more effectively than the publication process.

**Educational Agenda:** If both the teaching and research processes are functioning properly there is no conflict between them. If there is conflict, there is something fundamentally wrong with either the research process, the education process, or both. Although there may be a time lag in application, ultimately research must influence the education process (Beaver, 1984).

Interestingly, most students seem receptive to the integration of research studies into the curriculum. The more recent experiences of auditing and financial accounting courses are cases in point. One of the major consequences of introducing research is to alter students' perceptions of accounting as a discipline. Accounting does involve judgements and research has been conducted that provides evidence on the nature and consequences of those judgements.

But again there is need to be cautious. As Zeff (1989) has indicated we must decide what should be taught in our courses and curricula, and not allow these questions to devolve upon writers of the CPA examination and standard setters. Our textbooks should be leaders not followers, in accounting thought and practice. Concepts are enduring; practice is not.

This could be best achieved by concentrating not only upon **what** we introduce but also upon **how** we introduce it. Recent calls from the practice community urge us to oust the memorization of narrow rules and replace it with analytical and conceptual thinking (Elliott, 1991). This emphasizes the development of higher-order thinking skills that accounting practitioners will have to rely on in their work. To prepare students for a life-time of learning, we will have to teach them to learn how to learn. They must learn problem resolution procedures that are transferable to a workplace where the role of uncertainty is a major factor in professional decision making (Mayer-Sommer, 1990).

This I believe is the most compelling argument for the integration of research into teaching; and why all faculty should engage in research. If they are involved in research they will regularly encounter the "uncertainty barrier" in their own research activities and will have first hand knowledge of how to handle that uncertainty. This is an essential professional life skill our students must learn. As a final note it is worth remembering that the educational process can also have a substantial impact on research.

## CONCLUDING REMARKS

The claims that academic and practicing management accountants are not meeting the needs of their immediate clients especially in the area of supporting strategic management have been the focus of this paper. If strategy is understood in terms of the prevailing key issues at the time



then we saw that management accounting has over the years addressed the relevant prevailing strategic issues. But we did concede that this relevance has diminished over time. The present schism between the practicing and academic community is seen as partly responsible for this deteriorating situation.

The schism has arisen out of a lack of communication and has contributed to the absence of any mutual reinforcement in the practice, research, and educational agendas in management accounting. The approach recommended here is based on Sterling's (1973) advice to teach research results. But we go further in suggesting that it is not just the research results that needs teaching but the uncertainty breaking, problem solving strategies inherent in research procedures that also need teaching. These processes are likely to be most effective in the classroom when coupled with relevant content and this should be identified from the concerns of practicing management accountants.

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