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MANAGEMENT ACCOUNTING EDUCATION: IS THERE A GAP BETWEEN ACADEMIA AND PRACTITIONER PERCEPTIONS?

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Management Accounting Education: Is there a Gap between Academia and Practitioner Perceptions?

by

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Abstract

A mail survey was conducted of all Institute of Chartered Accountants of New Zealand accredited Tertiary Education Institutions and 300 randomly selected New Zealand companies to ascertain the views of management accounting academics and practitioners on the contents of management accounting courses and the skills and competencies of recent graduates.

The results show that practitioners placed an emphasis on traditional management accounting techniques, while academics placed an emphasis on contemporary techniques. Both groups were in agreement on the skills and characteristics required of recent graduates. An interesting finding was the emergence of negative comments on the arrogance of new graduates and an increased need for graduates to be work ready. These two aspects were not a feature of previous studies.

The implications of the results are that academics cannot ignore the teaching of traditional management accounting techniques and may need to increase the coverage of the issues involved in implementing contemporary management accounting techniques.

INTRODUCTION

Globalisation and the increasing complexity of business, together with high powered computing technology, have contributed to the development of new management accounting techniques. As these new techniques develop and sit alongside existing ones, attention focuses on what should form part of a 'common body of knowledge' (CBK) for management accounting education. Preparation of students by tertiary education for future roles in management accounting should involve teaching of techniques that will be beneficial to their organisations for the present and the future (Szendi & Elmore, 1993). Existence of a possible 'gap' in management accounting between theory and practice may indicate that academics are not teaching the latest techniques or are not teaching the traditional methods still in use (Scapens, 1983; Novin, Pearson & Senge, 1990). The identification of the existence of a 'gap' may assist practitioners and academics in determining the nature of that gap and how to close it. This paper aims are twofold: firstly, to identify if a gap exists between management accounting education and practice by evaluating the perceptions of academics and practitioners as to what is important in management accounting courses, and secondly, to canvass the skills that practitioners and academics consider are important for recent graduates.

MEASURING THE 'GAP'

The management accounting curriculum has been the topic of considerable debate over the past 25 years in terms of what should be included in its CBK, and whether a gap exists between theory and practice. An early US study (Deakin & Summers 1975) surveyed practitioners to determine what management accounting topics they thought were useful. Knight & Zook (1982) reported in their study of CPAs' and controllers' ratings of management and financial accounting topics that the two groups differed in their emphasis on the list of topics. Their study provided further insights into the topics that have the greatest relevance for management or financial accounting.

Scapens (1983, p.34) focus on the "gap between theory and practice" in management accounting and criticises sophisticated mathematical techniques appearing in textbooks as having limited adoption in practice. Practitioners, he argues, must be able to see the relevance and understand the results of academic research. Scapens (1983) believes that more academic study must be conducted on management accounting in practice in order to be relevant to practitioners.

In an article critical of the then current management accounting practice, Kaplan (1984) posits that little development had occurred in management accounting techniques from the period 1925 to the mid 1980s. He argues that reliance by management accounting academics on findings based on economic models rather than examples from 'real' organisations, has contributed to a gap between academia and practice. His urge for researchers to get involved with 'real' organisations has been credited with several innovations in management accounting in the late 1980s and early 1990s. Activity-based costing, balanced scorecard and economic value added (EVA) are some examples of these innovations, which have become common features in contemporary management accounting textbooks.

Debate over the content of a CBK for management accounting has been significant, particularly in the United States. Lander & Reinstein (1987) argue that, although management accounting for industry was dominant over CPA public accounting in practice, the curriculum was heavily weighed in favour of public accounting. According to them, establishing a CBK, and eliciting the views of practitioners is necessary to improve the existing curricula for management accounting. Their study therefore asked practitioners to give a ranking on management accounting objectives and specific knowledge items related to those objectives. Internal controls, operational budgeting and standard costing were found to receive the highest rankings. Another study by Robinson & Barrett (1988) found job order costing, cost volume profit (CVP) relationships and full absorption costing as the most important topics ranked by practitioners. In contrast, Van Zante (as cited in Novin, Pearson & Senge, 1990) found that cost behaviour, computing systems and forecasting, were ranked most highly. Despite these findings, Johnson & Kaplan (1987) sparked further debate with their criticism of traditional management accounting overhead allocation methods for being outdated for the manufacturing environment of the 1980s. Some criticism was aimed at accounting education for teaching outdated allocation overhead methods based on single volume measures.

The debate on management accounting education continues on to the 1990s. Novin et al. (1990) reviewed prior research in the area of a CBK and found significant similarities event though different research methods were used. Taking a different approach from previous research which tends to focus on management accounting techniques only, their study sets out to ascertain the skills and characteristics that students should possess for an intended career in management accounting. They emphasise that their research on skills and characteristics can give structure to an accounting programme.

To explore if a gap exists between the theory and practice of management accounting, Edwards & Emmanuel (1990) compared academic publications in two accounting journals and surveyed the rankings of topics by practitioners. Their results indicated that organisational and societal issues were important to academics, while the practitioners focussed on the technical aspects of management accounting. Edwards & Emmanuel (1990) concluded that the differences between academics' and practitioners' views arose from academics adopting a theoretical framework to study management accounting in terms of organisational and societal dimensions. In contrast, feedback from practitioners indicates that they would like to see academic research to be more relevant to practice.

Management accounting educators, according to Szendi & Elmore (1993), should be concerned with whether they are educating students to contribute to manufacturing environments. They state that change has been constant in management accounting in areas such as 'cost management' and this may impact on the management accounting curriculum. In order to target practitioners who were likely to be aware of the latest management accounting practices, Szendi & Elmore (1993) focussed their survey on recent attendees to Institute of Management Accountants (IMA) conferences. Their results show that these practitioners were still using traditional management

accounting techniques as they slowly adopted aspects of newer techniques. Despite criticisms of traditional techniques by academia, traditional techniques such as standard costing and contribution margin analysis were used by 80% and 83% of the respondents respectively.

In the United Kingdom (UK), Dugdale (1993) surveyed Bristol Chartered Institute of Management Accountants (CIMA) members to determine the importance of stated management accounting techniques. He asked CIMA members the importance of the techniques to themselves and also to their organisation. Students studying for CIMA examinations at the University of Bristol were also asked to complete the same questionnaire. The students' personal and organisational responses differed, with their organisational responses closer to the practitioners. The practitioners' personal and organisational responses were closely correlated. Results indicated that spreadsheeting and budgeting were the most important techniques;; newer techniques such as activity-based costing (ABC) and activity-based management (ABM) not rated high by practitioners. Dugdale (1993) concludes that there is a gap between theory and practice and suggests that academics need to focus on understanding why some techniques are not used widely in practice.

An interesting study conducted by the IMA in the US on (Siegel & Sorensen, 1994) "What corporate America wants in entry-level accountants" suggests that universities are doing a less than adequate job. Major concerns expressed by practitioners who had hired new graduates, were the lack of 'real' world practical experience and communication and social skills, and the inadequate focus on manufacturing accounting. Their study also indicates that the role of the management accountant had changed into more of an internal consultant, an analyst or a valued business partner. Similar to the calls made by Lander and Reinstein (1987) and Edwards and Emmanuel (1990), they also recommend universities to place more emphasis on the building of relationships between academics and practitioners so as to bridge the gap between the two groups' views.

In 1999, the IMA followed up on the 1994 study with a practice review. The practice review indicates that practitioners' critical work activities involved long-term strategic planning and process improvement rather than the traditional costing aspects of management accounting (Russell, Siegel & Kulesza, 1999). A further study on the importance of vocational skills and capabilities of newly qualified accountants in the UK indicates that communication skills were the most important skill, but the standard exhibited by graduates was just acceptable in the view of CIMA members (Hassel, Joyce, Montano & Anes, 1999). In a comprehensive US study of the future of accounting education, Albrecht & Sack (2000) compared academics' and practitioners' responses for a list of skills and found that they were substantially in agreement.

It would appear from the results of these studies that manufacturers are not abandoning traditional management accounting techniques. While there is some evidence of adoption of advanced management accounting techniques by practitioners, it could be described perhaps more as an 'evolutionary' process rather than 'revolutionary'. The rate of adoption of new or sometimes called advanced, management accounting techniques is a major potential cause of a gap between the views of practitioners and academics on what is important in management accounting.

ADOPTION OF ADVANCED MANAGEMENT ACCOUNTING TECHNIQUES

A UK study by Bright, Davies, Downes & Sweeting (1992) on the deployment of costing techniques, found that many manufacturers were still developing or even introducing traditional management accounting techniques. Bright et al. (1992) also had concerns about how manufacturers were implementing advanced management accounting techniques, with inconsistencies between the theories of the techniques and how they were being applied in practice. Ainikkal (1993) surveyed the top 200 and 42 smaller New Zealand companies to examine the uptake of advanced management accounting techniques. His results indicated that manufacturers still relied heavily on traditional management accounting techniques. Over 65% of firms were using volume-based measures for overhead allocation, despite widespread support of ABC by academics such as Kaplan & Cooper (1988). Reasons given for using traditional management accounting techniques by over 80% of the respondents were that they still found them useful. Chenhall & Langfield-Smith (1998) considered Australian adoption of advanced management accounting techniques. They reported that while most firms had adopted some form of the advanced techniques, traditional techniques were still the most widely used. Most manufacturing companies, however, indicated that they would be placing greater emphasis on advanced techniques in the future. Chenhall & Langfield-Smith (1998) conclude that it may be premature to assume that traditional management accounting techniques lack relevance to manufacturers.

A New Zealand study by Adler, Everett & Waldron (2000) attempted to find the up-take of advanced management accounting techniques by New Zealand manufacturers. Despite the years between Ainikkal (1993) and Adler et al.'s (2000) study, only a minority of New Zealand manufacturers have adopted advanced management accounting techniques. Similar to Ainikkal's findings (1993), traditional management accounting techniques such as standard costing were still popular with manufacturers. They found that advanced management accounting techniques were more likely to be adopted by larger firms. Significant barriers to adoption of these techniques were found to be in the area of human resources with a lack of skills, time factors and management indifference cited. It appears from these findings that management accounting practice requires knowledge of both traditional and new techniques from graduates entering management accounting practice.

THE FUTURE OF MANAGEMENT ACCOUNTING AND EDUCATION

The approaching millennium gave rise to considerable reflection and comment as to what the future of management accounting practice and education would hold. Dyer (1999) believed that technology is having an increasing impact on management accounting as the focus moves from data gathering to interpretation. Accounting education, he argues, will move away from technical content and shift towards non-traditional areas such as creative thinking skills, and oral and written communication skills. This shift from data gathering to analysing data has led to the term 'business partner' being used to describe the function of management accountants (Swanson, 1999; Maskall & Baggaley, 2000). This will require a change in the focus of education for management accountants from a calculation based to a more interpretative approach.

As the development of management accounting has generated a sizeable body of knowledge with traditional topics combined with recent advancements, this creates challenges in designing the curriculum (Brewer, 2000). Some, however, predict an impending crisis in management accounting and the potential that it may not survive in its present form (Chua & Baxter, 2000; Maher, 2000). Birnberg (2000) however argues that traditional topics such as budgeting will always form part of a management accounting course. He believes that while new topics such as ABC are included, traditional topics will continue to be prominent. The biggest criticism, particularly from the American perspective, is that the management accounting curriculum has failed to remain relevant to practitioners. Advances in technology, an increase in the complexity of modern business, and academia's inability to keep up with the pace of change are cited as the main causes of this failure to remain relevant (French & Coppage, 2000; Albrecht & Sack, 2000). Boer (2000) argues that academics tend to cover topics that they find interesting rather than what managers in industry find important.

This research will attempt to contribute to the debate by asking both academics and practitioners what management accounting topics and techniques are important. Prior research has tended to focus on one or the other group exclusively rather than identifying the differences between the groups. This paper aims to identify if a gap exists between management accounting education and practice by evaluating the perceptions of academics and practitioners as to what is important in management accounting courses. It will also focus on what academics and practitioners believe are important skills for graduates to possess, and the perceptions of the current strengths and weaknesses of recent graduates.

METHOD

A survey was conducted by mailing a questionnaire to two hundred public and one hundred private randomly selected companies in New Zealand as well as a questionnaire to the tertiary educational institutes (TEIs) that have accounting programmes accredited by the Institute of Chartered Accountants of New Zealand (The Institute). Copies of the questionnaires are included in Appendix One and Two. The practitioner questionnaires were addressed to the Financial Controller of each selected company, while the academic questionnaires for the TEIs were addressed to the Head of each Accounting department with a request to distribute them to all management accounting lecturers within their department.

Practitioners and academics were asked to select the importance they placed on a selection of management accounting techniques, skills and characteristics they perceived as important for management accounting education. The mailing of the 300 questionnaires to the practitioners resulted in 69 usable replies, giving a response rate of 24.4%, and responses received from academics at 10 TEI's resulted in a 66.6% response rate.

FINDINGS

The characteristics of the practitioner respondents are listed in *Table 1*. This shows categories for experience of practitioner, turnover, number of products and responses by industry. Responses were classified into three industry sectors (service, manufacturing and retail) to ensure sufficient category size when testing for any differences in responses between industries. Academic responses from ten tertiary institutions in *Table 2* show twenty-three (23) individual lecturers replied, with fourteen (14) from the polytechnic and nine (9) from the university sector. The majority of lecturers in both universities and polytechnics (78%) have less than ten (10) years' experience in management accounting.

Table 1: Practitioners' Responses: Turnover, Products, Industry and Years of Experience.

Practitioner experience (years)	**Percentage**
-10	33.4
11-15	26.1
16-20	23.1
21 +	17.4
	100.0%

Number of Products	**Percentage**
1-15	28.4
16-30	10.5
31-45	2.9
46-60	2.9
60-74	0
75+	55.3
	100.0%

Turnover ($)	**Percentage**
0-100 thousand	0.0
100 - 250 thousand	0.0
250 thousand - 1 million	1.5
1 - 5 million	1.5
5 - 25 million	14.7
25 - 100 million	27.9
100 - 500 million	36.7
500 million - 1 billion	10.3
1 billion and above	7.4
	100.0%

Practitioners by Industry (NZSIC)	**Percentage**
Accommodation	2.9
Communication	2.9
Construction	5.8
Electrical, gas, water	5.8
Finance	13.0
Fishing	1.5
Health	1.5
Manufacturing	27.6
Personal & other	10.2
Property	4.3
Retail	4.3
Transport	4.3
Wholesale/Retail	15.9
	100.0%

Table 2: Academics' Responses: Course, Practical Experience and Age

Academics n =23 Response by Course	**Percentage**	**Polytechnic numbers**	**University Numbers**
Introductory	30.4	5	2
Intermediate	30.4	2	5
Advanced	39.2	7	2
	100.0%	**14**	**9**
Years of Practical Experience n =23	**Polytechnic**	**University**	
0-10	9	9	
11-15	3	0	
16-20	2	0	
21 +	0	0	
	14	**9**	
Age of Academics n=22	**Polytechnic**	**University**	
30-39	5	2	
40-49	5	3	
50-59	1	4	
60+	2	0	
	13*	**9**	

*One respondent did not provide details of their age.

Practitioners and academics were asked to rate, on a 1 to 5 point Likert type scale, the importance of 21 listed management accounting techniques. The scale set low importance to a 1, and high importance to a 5 rating. The results are listed in *Table 3* below, ranked in order of mean scores.

Table 3: Ranked Importance of Management Accounting Techniques – Practitioners versus Academics.

Rank	**Practitioners**	**Mean**	**Rank**	**Academics**	**Mean**
1	Cashflow Management	4.29	1	Behavioural Implications	4.45
2	Operational Budgeting	4.24	2	Activity-based costing	4.35
3	Variance Analysis	4.14	3	Performance Evaluation	4.35
4	Performance Evaluation	4.06	4	Product Costing	4.27
5	Capital Budgeting	3.97	5	Operational Budgeting	3.83
6	Strategic mgmt Accounting	3.94	6	Activity-Based Management	3.83
7	Customer Profitability	3.91	7	Responsibility Accounting	3.70
8	Product Costing	3.88	8	Strategic mgmt Accounting	3.65
9	Activity-based costing	3.68	9	Customer Profitability	3.64
10	Cost Volume	3.61	10	Costs of Quality	3.48
11	Standard Costing	3.48	11	Variance Analysis	3.59
12	ERP Systems	3.48	12	Variable Costing	3.35
13	Process Costing	3.35	13	Cost Volume	3.36
14	Ethical Issues	3.32	14	Ethical Issues	3.46
15	Transfer Pricing	3.31	15	Standard Costing	3.23
16	Activity-Based	3.30	16	Transfer Pricing	3.18
17	Job Costing	3.28	17	Job Costing	3.00
18	Costs of Quality	3.28	18	Process Costing	2.64
19	Behavioural Implications	3.19	19	Cashflow Management	2.60
20	Variable Costing	3.18	20	Capital Budgeting	2.55
21	Responsibility Accounting	3.18	21	ERP Systems	2.43

The results showed practitioners selected cash-flow management, operational budgeting, variance analysis, performance evaluation and capital budgeting as their top five most important topics for importance in education. Academics ranked cash-flow management at 19th and capital budgeting at 20th. As academics were asked to rank the importance of items for management accounting courses it is possible that cash-flow management and capital budgeting topics were ranked lowly as they form part of financial management courses in some institutions. Therefore, they may be considered unimportant in management accounting courses as these topics are covered elsewhere in students' studies. Two of the techniques held important by both practitioners and academics were performance evaluation (ranked 3rd) and operational budgeting (5th). Further, the results indicate practitioners relied heavily on planning (cash management, operational and capital budgeting) and control systems (variance analysis and performance evaluation). As performance evaluation was not defined in terms of traditional or advanced techniques, this topic could be interpreted as return on investment (ROI) which is an established technique, or Economic Value Added (EVA), which is a contemporary development. Therefore this term is not clear cut, and its varied interpretation is a limitation of the study.

Interestingly, the top rating topic for academics was behavioural implications but practitioners' rating was 19th. This finding is similar to Knight and Zook's (1982) who also found that practitioners did not consider behavioural implications a high priority in education, but suggest that the passage of time may impart more significance. Similarly, Edwards & Emmanuel (1990) study shows that academics found topics of a societal and organisational context to be more significant than practitioners did. They suggest that academic emphasis on these issues may lead to providing more insights to practitioners on how their organisations function in a societal and organisational context. Knight & Zook's (1982) contention that practitioners may attach more significance in this area over time has not been established in this study.

Academics rated ABC and activity-based management (ABM) at number two and six respectively, but practitioners rated them at nine and sixteen. Studies conducted on organisational use of management accounting techniques have reported that the uptake of ABC and ABM has not been widespread (Adler et al., 2000; Chenhall & Langfield-Smith, 1998). The low rate of adoption, a high level of discontinuance and sustained criticism of ABC has surprised academics (Kaplan, 1992; Kennedy & Bull, 2000) as ABC promises superiority to traditional costing methods. Recent research in the area of ABC implementations has revealed that ABC can be costly in time and resources (Bhimani & Pigott, 1992) and be subject to negative behavioural effects which impact on its implementation and operation (Shields & McEwen, 1996). This indicates that academics may not only have to focus on the technical aspects of ABC, but also on the difficulties associated with an ABC implementation and under what circumstances ABC is best employed.

Another contemporary development, enterprise resource planning (ERP), rated 21st for academics, while practitioners rated it 12th. ERP systems can offer organisations powerful processing and information tools. Academics, according to Albrecht & Sack (2001), are not teaching students how

technology has changed business. There is evidence to suggest that difficulties exist with integration and benefits of ERP systems in practice (Wilson, 2001; Smith, 1999). Opportunities exist for academics to study how new technology interacts with established management accounting concepts, such as ERP and supply chains. Although this area involves information technology, researchers from information technology and management accounting disciplines could combine for joint research in these areas.

Overall, six of the topics in the top ten from the practitioners could be classed as traditional management accounting techniques (cash flow, operational and capital budgeting, variance analysis, product costing and cost volume. (Performance evaluation appears in both top ten lists but as previously discussed, it is unknown if this is traditional or contemporary). This is consistent with studies that practitioners have not abandoned using traditional management accounting techniques (Adler et al., 2000; Chenhall & Langfield-Smith, 1998; Ainikkal, 1993). Conversely, academics have included contemporary techniques as six out of their top ten (behavioural implications, ABC, ABM, strategic management accounting, customer profitability and costs of quality). It is not surprising perhaps that academics would focus on contemporary techniques due to research agendas. Edwards & Emmanuel (1990) suggest that academic research needs to be co-ordinated and combined with practitioners, so that both education and practice mutually benefit from the results.

Practitioners were asked to rate the use of the twenty-one listed management accounting techniques in their organisation. The results in *Table 4* below compared practitioners' perceptions of what techniques are important for education versus use in their organisation. Four of the top five ranking techniques; cash-flow management, operational budgeting, variance and capital budgeting, all rated higher in organisational use by the practitioners than their importance in education. Evidence exists of the importance that practitioners placed on these techniques by giving them a higher rating than for educational importance, for use in organisation.

Table 4: Practitioners' Importance Rating of Techniques in Education Versus Organisational Use.

		Education Importance mean	Use in Organisation mean
1	Cashflow Management	4.29	4.36
2	Operational Budgeting	4.24	4.58
3	Variance Analysis	4.14	4.24
4	Performance Evaluation	4.06	3.28
5	Capital Budgeting	3.97	4.33
6	Strategic mgmt Accounting	3.94	3.38
7	Customer Profitability	3.91	3.32
8	Product Costing	3.88	2.70
9	Activity-based costing	3.68	3.00
10	Cost Volume	3.55	3.35
11	Standard Costing	3.48	3.40
12	ERP Systems	3.48	3.03
13	Process Costing	3.35	2.70
14	Ethical Issues	3.32	2.68
15	Transfer Pricing	3.31	3.24
16	Activity-Based Management	3.30	2.65
17	Job Costing	3.28	3.26
18	Costs of Quality	3.28	2.60
19	Behavioural Implications	3.19	2.33
20	Variable Costing	3.18	2.87
21	Responsibility Accounting	3.18	2.74

The results in *Table 5* for skills and characteristics important for graduates are arranged in order of average mean scores for both practitioners and academics. They show that academics had given a higher rating in every case for skills than practitioners had. Despite this, there is significant agreement for skills between practitioners and academics. The skills and characteristics categories were adapted from Novin et al. (1990), who surveyed practitioners only. The results from Novin et al. (1990) are almost identical to this study, with thinking, problem solving and listening skills all in the top three. Hassall et al. (1999) report that practitioners in their UK study did not place high importance on problem solving skills. Albrecht & Sack (2000) in their study had critical analytical thinking as the highest ranking skill by academics and the 2nd highest for practitioners.

The characteristics results show that both practitioners and academics listed common sense and professional attitude in the top three, with similar ratings. Practitioners in the Novin et al. (1990) study also rated common sense top, ethical awareness second and motivation third. Practitioners in this study, however, rated ethical awareness at number 8 compared to academics at number 5. Intellectual capacity was not favoured by practitioners in Novin et al. (1990) who rated this item last, but both practitioners, at number 4, and academics, at number 3, placed importance on this.

Table 5: Characteristics and Skills Important for Management Accounting Graduates Rated by Practitioners and Academics.

Practitioners n =69		Academics n =23	
Skills	**Mean**	**Skills**	**Mean**
1 Thinking	4.69	1 Problem solving	4.83
2 Problem solving	4.59	2 Thinking	4.74
3 Listening	4.54	3 Listening	4.56
4 Quantitative	4.16	4 Quantitative	4.39
5 Micro-computer	4.15	5 Speaking	4.35
6 Writing	3.97	6 Writing	4.30
7 Reading	3.90	7 Micro-computer	4.26
8 Social	3.81	8 Reading	4.13
9 Speaking	3.80	9 Management	3.96
10 Management	3.60	10 Social	3.96
11 Marketing	2.74	11 Marketing	2.87
Characteristics		**Characteristics**	
1 Common Sense	4.69	1 Common Sense	4.61
2 Motivation	4.44	2 Professional attitude	4.35
3 Professional attitude	4.44	3 Intellectual capacity	4.30
4 Intellectual capacity	4.16	4 Motivation	4.27
5 Confidence	3.84	5 Ethical awareness	4.26
6 Pleasant Personality	3.78	6 Confidence	4.14
7 Assertiveness	3.57	7 Leadership	3.87
8 Ethical awareness	3.47	8 Pleasant Personality	3.48
9 Leadership	3.46	9 Assertiveness	3.39
10 Professional Appearance	3.32	10 Professional Appearance	3.17

Practitioners were asked to name up to five strengths and five weaknesses of management accounting graduates recently employed. They were also asked to give a rating of one to three in terms of the weakness or strength. The results are shown in *Table 6*. A rating of one indicated weak or strong, a rating of two, very weak or strong and a rating of three, extremely weak or strong. The number of strengths or weaknesses mentioned was recorded and their average mean scores calculated. Excel/PC skills were the most significant strength with 19 mentions and a rating of 2.4. Previous studies (Novin et al. 1990; Dugdale, 1993; Albrecht & Sack, 2000) report that practitioners identify computer/spreadsheet software as a significant technology skill from accounting graduates. Technical accounting skills also ranked highly at 15 mentions, but with a lower rating at 1.5. It should not be surprising that practitioners require graduates to have a good understanding of management accounting techniques and to develop models of these on spreadsheets. A high level of satisfaction was recorded for motivation (1.7) and problem solving abilities (1.9) of graduates. Academics placed a high emphasis on problem solving and this appeared to be confirmed by practitioners, although four listed this as a weakness. Overall these results are consistent with Novin et al. (1990) for practitioners' results.

Arrogance of graduates was listed as the major weakness, with eight mentions and a rating of 1.6. This did not show up in the previous study by Novin et al. (1990) and it is an interesting finding that perhaps has explanations in a wider societal, rather than educational context. Writing skills (1.8)

with seven and listening skills (1.8) with six mentions are consistent with long established criticisms of business graduates' communication skills (Main, as cited in Novin et al., 1990). This problem may be occurring at lower levels of the education system, and may not be necessarily symptomatic of what is occurring at tertiary levels, since communication courses are taught at most tertiary institutions. Lack of practical experience (1.8) and commercial business awareness (1.8), both inter-related, also had six mentions each. While this did not show up in the Novin et al. (1990) study, Albrecht & Sack (2000) noted comments from practitioners concerning new graduates having little commercial business knowledge. While some organisations allocate resources to training graduates this may be changing. One organisation in this survey commented that they prefer to employ graduates who have worked a few years, rather than inexperienced graduates. Organisations, which require work ready graduates, may do so for reasons of minimising company resources in training and expecting them contribute towards the business immediately. A growing number of educational institutions are including a practical project into their degree programmes to give students business exposure. Other avenues exist for institutions to give students real world exposure and these include case studies, site visits and guest lectures. These results may have implications for academics to incorporate ways of giving students more 'real world' exposure.

Problem solving, technical accounting skills, computer skills and some aspects of communication appeared on both the strength and weakness lists. This could be explained by differences in emphasis by individual academic institutions (Novin, et al., 1990). Approaches to how courses are operated may account for problem solving appearing on both lists. Some institutions, for instance, may require students to critically evaluate material while others may merely require recall of information. While the majority of practitioners rated technical accounting skills high, six classed it as a weakness, with a high rating of 2.2 and this should be of concern to academics. It is also important to recognise that the skills of graduates are developed across a range of papers in a graduate's studies, not just management accounting papers. As such not all these skills can be developed in management accounting courses, but it does reinforce the need to ensure that the skills are developed as part of a graduates total studies. They can then be reinforced in management accounting courses by demonstrating how these skills are important to the practice of management accounting.

Table 6: Strengths and Weaknesses of Recent Graduates Rated by Practitioners.

Strengths n = 33	Times mentioned	Average Rating
1 PC/Excel skills	19	2.40
2 Technical accounting skills	15	1.5
3 Motivation	12	1.70
4 Problem Solving	10	1.90
5 Quantitative/Analytical	9	2
6 Communication	6	1.80
7 Ethics	5	2.20
8 Confidence	5	2
9 Management abilities	5	1.60
10 Initiative	4	1.25
11 Professionalism	4	2.25
Weaknesses		
1 Arrogant	8	1.60
2 Writing Skills	7	1.80
3 Practical Experience	6	1.80
4 Technical accounting skills	6	2.20
5 Commercial awareness	6	1.80
6 Listening Skills	6	1.80
7 Common Sense	5	1.60
8 Computer Skills	4	1.30
9 Problem Solving	4	1.75

Practitioners were grouped into three main categories 'Turnover', 'Product Number of Firm' and 'Years of Practical Experience of Practitioner'. Three 'bands' were created within each of these factors to see if they had any effect on the practitioners perception on the topic for 'Use in Education', 'Use in Organisation' and 'Skills/Characteristics'. Anova tests were conducted within the bands to determine significant differences ($p<.05$) for management accounting techniques and skills/characteristics.

In the 'Turnover' section, the only significant difference was in 'Use in Education', for costs of quality, for the larger turnover bands of $100-$500M and >$500M compared to the $0-$100M band. A smaller company, should in theory, have as much emphasis on quality as a large one. However a possible reason for this could be that larger companies, on average, may be more likely to have a quality programme, such as the International Standards Organisation (ISO) series. This could be due to having more resources, both in money and employees, than smaller companies, or customers that require ISO accreditation. (For 'Use in Organisation', cost of quality was rated higher for larger turnover companies, but the results were not significant at $p<.05$).

The only significant difference contained in 'Product Number', was in 'Use in Organisation', for ERP. Practitioners with larger product numbers (>75), rated the use of ERP systems higher than lower bands (<15 and 16-75). ERP systems are expensive and complex to operate (Smith, 1999) and therefore are more likely to be implemented only if complex operations exist, such as large product numbers.

'Practitioner's Experience' accounted for the most variances within the three groupings. Standard costing, for 'Importance in Education' was significant between the >20 years and 11-19 years bands, with the more experienced practitioners rating standard costing higher. Practitioners with more experience, due to the passage of years, arguably have had more educational exposure to traditional standard costing before the more contemporary techniques were introduced. However, practitioners in the 0 - 10 years band, who would have had most exposure to contemporary management accounting techniques, rated standard costing higher than the 11-19 years band. A conclusion cannot necessarily be drawn that practitioners choose traditional techniques over modern ones, just because they were taught them and had no education exposure to the more modern techniques. Operational budgeting in the 0-10 years and >20 years bands had significant variance with the 11-19 years band. There appears to be no apparent reason for this result. For 'Use in Organisation', a significant variance occurred for responsibility accounting between the 0-10 years and >20 year bands. Practitioners, who are more experienced, may favour concepts of responsibility accounting structures over younger practitioners. To attach any significance to this result would involve analysing the accountability structures in place in organisations. The term responsibility accounting could be perceived as having different meanings to both groups, but may actually involve similar methods.

Skills and Characteristics were only significant in the 'Practitioner's Experience' grouping. Reading was significant for the >20 years band and for the 0-10 years and 11-19 years bands. Thinking was significant for the 0-10 years, 11-19 years and >20 years bands. Motivation was only significant for the >20 and 11-19 years bands. Leadership was significant for the 0-10 years and 11-19 years bands. The results from Skills and Characteristics do not however provide any clear basis for analysis, in that it does not provide reasons for differences that have occurred between the bands.

An analysis of practitioners' responses by industry sector revealed only 3 management accounting topics with a significant difference in average ratings. Manufacturing sector respondents rated process costing (3.88) and cost volume profit analysis (4.04) significantly higher than retail sector respondents (2.71 and 3.2 respectively)) The third difference related to manufacturing sector respondents rating the importance of standard costing (4.04) higher than retail sector respondents (3.12). This reflects the greater emphasis placed on costing requirements in the manufacturing sector than in the retail and service sector. Overall, differences in the ratings given by practitioners were not greatly influenced by the sector of the respondent. Analysing the management accounting techniques used revealed that standard costing was the only technique with a statistically significant difference in the level of use between industry sectors. Standard costing was used more often in the service sector (3.11) than in the manufacturing sector (1.8).

The results in this section were analysed to determine if breaking down of practitioner's results into bands would provide insight into emphasis of techniques and skills/characteristics. Overall there was a large degree of similarity between the groups with only eight (8) significant variances occurring for 'Use in Organisation' and 'Importance in Education' out of a possible three hundred and seventy eight (378) combinations. In the Skills and Characteristics section, six (6) significant

variances occurred within a possible one hundred and eighty nine combinations. Ten (10) out of the fourteen (14) significant variances occurred within the 'Experience of Practitioners' grouping. The results that did show differences were not evident or could be readily explained. It appears that choice of technique and emphasis of skills/characteristic is not significantly correlated to turnover, product number, industry sector, or experience of practitioner.

The gap between practitioners' and academics' perceptions of the techniques, skills and characteristics in terms of importance of management education, was measured by the difference in the mean scores. The standard deviations were also calculated for both groups and two tailed t-tests were performed. The results are shown *Table 8*. Evidence of significant differences ($P<.05$) were discovered for ABC, ABM, process costing, responsibility accounting, behavioural aspects, variance analysis, cash-flow management, capital budgeting and ERP systems. Operational budgeting was marginally significant. In terms of skills/characteristics, gaps were found for speaking, ethical awareness and leadership. Traditional techniques, favoured by practitioners, had gaps for process costing, capital budgeting, cashflow and variance analysis, with the exception being responsibility accounting. As stated previously, there may not be a gap in the areas of cashflow and capital budgeting as these may now form part of a business finance course. Academics cannot ignore traditional techniques as they are still being used by practitioners. Research opportunities exist to examine why practitioners are still using traditional techniques. Edwards & Emmanuel (1990) argued that over time as new graduates enter the industry, they would adopt newer techniques. However, there is little evidence from these results, nearly a decade later, of this occurring. ABC and ABM have not been adopted by practitioners on a wide scale (Adler et al., 2000; Chenhall & Langfield-Smith, 1998) and these results confirm that an expectation gap exists between academics and practitioners. Academics may need to reflect more on the problems associated with implementation of ABC and discuss these issues in class. Graduates are then made aware of, not only the technical aspects of ABC, but also the implementation problems that may arise.

A gap exists for behavioural implications of management accounting. This was also confirmed in Edwards & Emmanuel (1990). Knight & Zook (1982) report a low rating from practitioners for behavioural implications in accounting. Studies have shown that successful implementation of management accounting techniques can depend on behavioural reactions from employees (Krumwiede & Roth, 1997; Ness & Cucuzza, 1995; Gosselin, 1997). Calls have also been made for more of this type of research (Birnberg, 2000; Maher, 2000). Exposure in practitioner journals to academic research may assist practitioners to understand the behavioural implications of implementing newer techniques. Graduates also need to be aware via the classroom of how people's reactions to a new costing system can impact on its implementation.

The gap for computerised systems (ERP) in this study has also been apparent in previous studies (Dugdale, 1993; Edwards & Emmanuel, 1990; Novin et al., 1990). Albrecht & Sack (2001) argue that academics are not exposing students to how technology is impacting on business. Academics may have to consider how to incorporate the teaching of technology more into their courses to close

this gap, although this can be a challenge (Novin et al., 1990). They may have to first, become aware of what computerised systems such as ERP are capable of and how they operate.

Finally, gaps were found in the skills and characteristics areas for speaking, ethical awareness and leadership, with academics placing more importance in all these areas. Ethics has been topical in academia in recent times and perhaps explain the reasons for their emphasis.

Table 7: Practitioners' and Academics' Importance Rating

	Practitioner		Academic			
	mean	S.D.	mean	S.D.	t-test	p value
ABC	3.682	1.069	4.348	1.191	2.497	0.014
Process Costing	3.354	1.037	2.636	1.093	-2.767	0.007
Standard costing	3.477	1.077	3.227	1.572	-0.831	0.408
Cost volume	3.606	1.006	3.364	1.465	-0.867	0.388
Perform. Evaluation	4.063	0.852	4.348	1.112	1.267	0.209
Operational budgeting	4.235	0.694	3.826	1.302	-1.919	0.058
Capital budgeting	3.970	0.841	2.550	1.317	-5.739	0.000
Cashflow management	4.294	0.793	2.600	1.429	-6.866	0.000
Product costing	3.881	0.896	4.261	1.137	1.635	0.106
Var/Abs costing	3.185	1.059	3.348	1.369	0.587	0.559
Transfer pricing	3.313	1.062	3.182	1.563	-0.446	0.657
Behaviour implications	3.190	0.965	4.478	0.665	5.899	0.000
Job costing	3.277	1.038	3.000	1.414	-0.996	0.322
ERP systems	3.484	0.864	2.429	1.326	-4.189	0.000
Responsibility Accounting	3.177	0.840	3.696	1.185	2.249	0.027
ABM	3.297	0.885	3.826	1.337	2.131	0.036
Variance analysis	4.152	0.749	3.591	1.563	-2.254	0.027
Ethical issues	3.318	0.995	3.455	1.011	0.555	0.581
Customer profitability	3.908	0.861	3.636	1.399	-1.078	0.284
Strategic Mgmt	3.939	0.857	3.652	1.434	-1.147	0.254
Costs of Quality	3.281	0.806	3.478	1.473	0.793	0.430
Listening	4.544	0.502	4.565	0.728	0.155	0.878
Management	3.603	0.964	3.957	0.928	1.534	0.129
Marketing	2.735	0.857	2.870	1.058	0.611	0.543
Micro computing	4.147	0.815	4.261	0.619	0.612	0.542
Problem solving	4.588	0.553	4.826	0.388	1.908	0.060
Reading	3.897	0.715	4.130	1.058	1.189	0.237
Social	3.809	0.718	3.957	1.022	0.762	0.448
Speaking	3.794	0.682	4.348	0.714	3.328	0.001
Thinking	4.691	0.496	4.739	0.541	0.391	0.696
Writing	3.971	0.732	4.304	0.635	1.950	0.054
Quantitative	4.162	0.704	4.391	0.583	1.407	0.163
Assertiveness	3.574	0.676	3.391	0.988	-0.987	0.326
Commonsense	4.691	0.465	4.609	0.583	-0.688	0.493
Confidence	3.838	0.683	4.136	0.834	1.685	0.096
Ethical awareness	3.471	0.922	4.261	0.915	3.560	0.001
Intellectual capacity	4.162	0.614	4.304	0.635	0.955	0.342
Leadership	3.456	0.762	3.870	0.920	2.134	0.036
Motivation	4.441	0.583	4.273	0.827	-1.057	0.293
Pleasant personality	3.779	0.844	3.478	1.082	-1.374	0.173
Professional appearance	3.324	0.921	3.174	0.887	-0.679	0.499
Professional attitude	4.441	0.583	4.348	0.885	-0.577	0.565

Practitioners were asked to make comments about management accounting education and graduates recently employed. Six practitioners from the sixty-nine that replied made comments. A common response from practitioners concerned a lack of 'real world' experience by graduates. This may reflect the view that practical applications of techniques and knowledge are not traditionally included in a course of study by many tertiary institutions, especially universities. Academic courses may have to consider ways in which students can be exposed to real world situations. Closer liaison with practitioners may provide not only experience for graduates, but also allow academics to be exposed to industry. Although communication skills are commonly taught as part of a business degree, some practitioners expressed dissatisfaction in this area. Teaching of communication skills relative to management accounting tasks, such as writing of instructions for the annual budget, or verbal explanation of how a new accounting system will operate, may be more useful than a generic communications course.

CONCLUSIONS

This paper considers if a gap exists between management accounting education and practice by evaluating the perceptions of academics and practitioners as to what is important in management accounting courses. The paper also compares the skills that practitioners and academics believe are important for recent graduates and what both groups perceive to be the strengths and weaknesses of recent graduates.

Previous studies reported that practitioners emphasise the use of traditional over contemporary management accounting techniques. Results from this study show that practitioners still favour traditional over contemporary management accounting techniques for use in their organisation and for educating students, while academics favour contemporary techniques. Edwards & Emmanuel's (1990) study suggested that graduates exposed to newer techniques would adopt them as they enter the practice of management accounting over time. However, the results of this study did not support this view.

Six out of the top ten management accounting techniques selected by practitioners as being important for education were traditional techniques (cashflow management, operational budgeting, variance analysis, capital budgeting, product costing and CVP). In contrast, academics selected six contemporary techniques as their top ten important topics (behavioural implications, ABC, ABM, strategic management accounting, customer profitability and costs of quality). Practitioners also placed emphasis on traditional over contemporary techniques when selecting the management accounting techniques used in their organisations. Four of the top five management accounting techniques selected by practitioners, rated higher for use in their organisation than for educational importance, but all other topics rated higher for use in education.

Practitioners and academics achieved significant agreement on skills and characteristics graduates should obtain, confirming previous studies. However the strengths and weaknesses of graduates listed by practitioners contain differences from previous work, especially in the area of attitudes of

graduates and work experience. Negative comments were received from some practitioners on the 'arrogance' of new graduates and the requirement for more 'work ready' graduates.

Practitioners, as the results have shown, and supported by previous studies, are still emphasising traditional over contemporary techniques. Traditional management accounting techniques are still important to practitioners, and therefore cannot be ignored by academics. While the results indicate that academics cannot ignore the teaching of traditional management accounting techniques, development of new techniques and their teaching is still of importance. Non-adoption of management accounting techniques by practitioners does not necessarily mean that the techniques are irrelevant and inoperable. Academics who research barriers to adoption of newer techniques should find forums for their results in practitioner journals to share their findings in language practitioners can understand. Co-operation between practitioners and academics would enable both groups to co-ordinate and better understand why the 'gap' exists.

Limitations and Further Research

Although the response rate of about 24% for practitioners is a limitation as to the generalisation of the results, the results were generally found to be consistent with that of prior studies that achieved higher response rates (Szendi & Elmore, 1993; Novin et al., 1990; Edwards & Emmanuel, 1990).

The other limitation of this study is that there is a possibility that practitioners and academics may have interpreted some of the terms differently. For instance, they may have perceived performance evaluation as economic value added (a contemporary technique) or return on investment (a traditional technique). Further research should perhaps include definitions of the terms used to ensure that both practitioners and academics interpret them in a similar manner. However, despite this limitation, practitioners were generally found to be consistent in selecting traditional over the modern techniques.

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Appendix One.

Practitioners Questionnaire - Management Accounting Education.

Section One.

Please tick or fill in the appropriate sections.

Age:_____Under 30_____30-39_____40-49_____50-59_____60 +

Bachelors Degree_____Masters Degree_____Professonal qualification____

Number of Years in Management Accounting _____

Current Job Title_____

Turnover of Company $ 0 - $500,000 ____ $500,000 - $1 million___ $1 million- $5 million___ $5 million - $10 million___ $10 million- $20 million ___ $20 million - $50 million____ $50 million- $100 million___ $100 million- $500 million ___$500 million- $1 billion __ $1 billion & above_____

Number of Products/Services 1-15__ 16-30___31-45___46-60___61-75__ 75 plus___

Number of Accounting Department Staff _____

Industry Classification: Agriculture__ Mining__ Construction___ Manufacturing __ Transportation ___Wholesale Trade___Retail trade ___Finance/ Insurance ___Service ___Public Sector_____

Section Two.

Please rate the importance in your view of these management accounting topics

	Not Important (1)	(2)	(3)	(4)	Extremely Important (5)
Activity Based Costing					
Process Costing					
Standard Costing					
Cost-volume profit					
Performance evaluation					
Operational budgeting					
Capital budgeting					
Cashflow management					
Product costing					
Variable/Absorption costing					
Transfer pricing					
Behavioural implications					
Job Costing					
Computer systems -ERP, SAP					
Responsibility accounting					
Activity Based management					
Variance analysis					
Ethical issues					
Customer profitability analysis					
Strategic management accounting					
Costs of quality					
Other_____					
Other_____					

Section Three

In this section please indicate the importance of these following skills and characteristics.

A. Skills	Not Important (1)	(2)	(3)	(4)	Extremely Important (5)
1. Listening Skills					
2. Management Skills					
3. Marketing Skills					
4. Microcomputer Skills					
5. Problem Solving Skills					
6. Reading Skills					
7. Social Skills					
8. Speaking Skills					
9. Thinking Skills					
10. Writing Skills					
11.Quantitative Skills					
12. Other ? Specify_____					
13. Other ? Specify _____					

B. Characteristics

1. Is assertive
2. Has Common Sense
3. Is Confident
4. Is ethical
5. Is intellectual
6. Is a leader
7. Is motivated
8. Has a pleasant personality
9. Has Professional appearance
10. Has a professional attitude
11. Other? Specify_____
12. Other Specify _____

Section Four.

Based on your perceptions please list up to five **STRENTHS** of recent accounting graduates who have begun their careers in management accounting. Please circle the extent of the **STRENGTH** too.

	Strong	Very Strong	Extremely Strong
1._____	1	2	3
2._____	1	2	3
3._____	1	2	3
4._____	1	2	3
5._____	1	2	3

II. Based on your perceptions, please list up to five **WEAKNESSES** of recent accounting graduates who have begun there
careers in management accounting. Please circle the extent of each **WEAKNESS** too.

	Strong	Very Strong	Extremely Strong
1._____	1	2	3
2._____	1	2	3
3._____	1	2	3
4._____	1	2	3
5._____	1	2	3

Appendix Two

Academic Questionnaire - Management Accounting Education.

Section One.

Please tick or fill in the appropriate sections.

Age:_____Under 30_____30-39_____40-49_____50-59_____60 +

Years of practical industry experience in management accounting?_____

Number of Years in academic Management Accounting _____

Current Job Title_____

Text Book (s) used_____

Course Level – Introductory_____ Intermediate_____ Advanced_____
(Please tick)
Core Paper_____ Elective_____
(Please tick)

Section Two.

Please rate the importance in your view of these management accounting topics

	Not Important (1)	(2)	(3)	(4)	Extremely Important (5)
Activity Based Costing					
Process Costing					
Standard Costing					
Cost-volume profit					
Performance evaluation					
Operational budgeting					
Capital budgeting					
Cashflow management					
Product costing					
Variable/Absorption costing					
Transfer pricing					
Behavioural implications					
Job Costing					
Computer systems -ERP, SAP					
Responsibility accounting					
Activity Based management					
Variance analysis					
Ethical issues					
Customer profitability analysis					
Strategic management accounting					
Costs of quality					
Other_____					
Other_____					

Section Three

In this section please indicate the importance of these following skills and characteristics you think a management accounting graduate should have.

A. Skills	Not Important (1)	(2)	(3)	(4)	Extremely Important (5)
1. Listening Skills					
2. Management Skills					
3. Marketing Skills					
4. Microcomputer Skills					
5. Problem Solving Skills					
6. Reading Skills					
7. Social Skills					
8. Speaking Skills					
9. Thinking Skills					
10. Writing Skills					
11.Quantitative Skills					
12. Other ? Specify_____					
13. Other ? Specify _____					

B. Characteristics

1. Is assertive
2. Has Common Sense
3. Is Confident
4. Is ethical
5. Is intellectual
6. Is a leader
7. Is motivated
8. Has a pleasant personality
9. Has Professional appearance
10. Has a professional attitude
11. Other? Specify_____
12. Other Specify _____