

An Alternative Approach to Surveying Management Accounting Practices

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Abstract

There is a consensus that management accounting practice has changed overtime, and changed more recently. Previous studies have used postal surveys to identify the management accountant's role today. Few surveys find consistent use of techniques. Traditional surveys have the disadvantage that the survey relies on the person with the information voluntarily responding. This study provides a novel survey method of data collection that reduces the disadvantages of using surveys for research, by sampling without relying on responding and without relying on Likert scales. Information listed in management accounting job descriptions on a situations vacant website was used to clearly describe the breadth and typical techniques that are required of management accountants in today's organisations. The management accounting role is vast and involves many techniques. There were a total of 36 techniques that were found as the type of techniques that management accountants use. The two different internet survey methods used in this study have shown consistent results and have also shown consistencies and differences to previous postal surveys. The internet survey methods used in this paper provide an alternative approach of researching techniques used by management accounting practitioners and practitioners in other roles. The approach could be applied again to investigate whether the changes in techniques emphasised by management accountant roles are enduring changes.

Keywords: Management accounting change, survey, traditional techniques, job role.

An Alternative Approach to Surveying Management Accounting Practices

At various times cost accounting has been driven by financial accounting and the need to supply information on inventory value and costs (Johnson & Kaplan, 1987). Technology has had a large impact on job roles (Dyer, 1999). Many jobs use computers now and there are many more computer programs around today than there was not twenty years ago. Rather than data collection as one of the management accountant's problems, the issue has shifted to data interpretation (Dyer, 1999).

The environment that management accountants work in has changed in the last century. Traditional economies have moved from a state of mass production to mass customisation (Ross, 1990). Globalisation has increased the amount of competition. Material costs and labour costs have declined as a proportion of total manufacturing costs and the number of workers employed in non-manufacturing has grown significantly while the number of workers employed in manufacturing has remained steady (Boer, 2000). The way products and services are manufactured and provided has changed and thus the way costs are measured and allocated has changed.

Kaplan (1984) has argued that there has been no development of management accounting techniques during the period of 1925 to the 1980s. The critical article of Kaplan's inspired the development of advanced management accounting techniques such as economic value added, the balanced scorecard, and activity based costing and management.

Atkinson (1987) confirmed a crisis of management accounting profession that had lost relevance in Canada and that one of the solutions was to define a set of relevant and practical management accounting skills.

Now, many routine accounting tasks are being centralised and outsourced (Burns & Vaivio, 2001). Management accountants do more management activity and less accounting dealing with costs (Burns, Hopper, & Yazdifar, 2004). What was in an accountant's job description is now being decentralised to managers and those in the operational process. The position of manager or management accountant is now similar to that of an internal business consultant (Siegel & Sorenson, 1994).

Boer (2000) acknowledges that there is a change in management accounting practice, but is unsure what the change has been to. There appears to be a recognition that management accounting is dealing with systems that support organisation strategy. There is also recognition that there are new developments and that management accountants' deal with less numerals than in the past.

The remainder of this paper is devoted to establishing the techniques of the typical management accounting practitioner. The following section reviews previous literature. Section three provides the method for this study. Section four provides the results, followed by the discussion in section five. Section six concludes.

Some of the early studies, on the use of management accounting techniques, were reviewed by Scapens (1984). The studies in the early 1980s revealed that simple quantitative models were being used and that US organisations used quantitative models more so than UK organisations. Absorption costing was widely used with no citations of any advanced management accounting techniques. This section of the paper reviews; recent international studies surveying technique adoption, surveys that use Likert scales, other surveys that rank management accounting techniques, a study using a novel survey method, and the rationale for the survey approach used in this paper.

2.1 International surveys of technique adoption

A 1990 UK survey reported by Bromwich and Bhimani (1994) indicates that the cost management techniques most commonly used or planned to be used by UK firms were; ABC, cost modelling, and costs of quality. Other techniques were; target costing, strategic management accounting, and throughput accounting.

Bromwich and Bhimani (1994) concluded that traditional techniques such as standard costing and budgetary control systems are still being used and new systems have developed without regards for managers requirements. The 1990 survey is consistent with Boer (2000) that found an emphasis on strategic management.

Another UK study (Drury, Braund, Osborne, & Tayles, 1993) found that allocation methods such as plant wide rates and labour based rates are being used as they are simple to do. ABC was widely considered, but not used extensively. Standard costing, payback analysis, and target profit and return on investment were widely used. Management accountants still appeared concerned with product costing and profitability. The survey by Drury et al. is consistent with the 1990 UK survey that found target costing and ABC was widely used. The high use of performance measures such as return on investment was not evident in other surveys.

There also appears to be a changed emphasis towards non-financial indicators, as opposed to financial indicators. From a 1993 study of ten UK firms, Cobb (1993) found that operational indicators were being used more often than before, and these were being used in place of financial measures.

The typical activities and techniques undertaken by management accountant practitioners have been referred to by Lander and Reinstein (1987) as a common body of knowledge. The common body of knowledge was found to be techniques of internal controls, operating budgets, and standard costing. Robinson and Barrett (1988) found that practitioners typically needed to be familiar with absorption costing.

In summary, the results of the international surveys of technique adoption are not consistent. Other than the technique of standard costing, there are many topics listed that do not appear more than once in any of these surveys. Target costing, and strategic management accounting techniques were used to different extents.

2.2 Surveys using Likert scales

Edwards and Emmanuel (1990) surveyed practitioners in Scotland by using a questionnaire comprising of Likert scales to rank predetermined management accounting techniques chosen from two peer reviewed accounting journals. The results from 44 questionnaire responses indicated that practitioners place emphasis on technical aspects more than organisational and societal issues. The technical issues that were considered to be more important to practitioners were budgeting and product pricing. Comparing the survey results to the topics in research journals showed that there is a divergence between practitioner's views of important techniques and the views of researchers.

There is widespread support from academics that activity based allocation systems should be used, though the majority of New Zealand organisations allocate overheads using volume related bases (Ainikkal, 1993). The use of volume based allocations suggests that management accountants in New Zealand are using traditional techniques rather than advanced techniques such as ABC. A survey conducted ten years later by Hawkes, Fowler, and Tan (2003) showed that the advanced techniques of ERP systems, costs of quality, variable costing, and other advanced techniques had lower importance ranking than traditional techniques.

The questionnaire of Hawkes et al. (2003) included 21 preset techniques that asked respondents to provide a Likert rating for each technique. The conclusion, based on 24.4% of the mailed questionnaires, was that there exists a gap between perceptions of academics and practitioners, confirming the study done by Knight and Zook (1982).

2.3 Ranking of techniques

One of the latest reported postal surveys of the views of management accountants in the UK found that traditional techniques were considered important (Yazdifar, 2005). The rankings of contemporary techniques to be used for the future could not be generalised. Respondents were asked to state the five most important techniques out of 32 and then the survey responses were disaggregated into parent and subsidiary organisations. The results of the survey showed business performance evaluation, budgets, strategic management accounting, variance analysis, and rolling forecasts were the most important. There was no concluding difference between parent and subsidiary organisations.

For survey results to be valid and ranked, the techniques stated in the survey questionnaires need to already represent the practising techniques. There needs to be a prior judgement of techniques that adequately reflect the practices of management accountants.

Adler, Everett, and Waldron (2000) conducted a survey that asked management accountants, at New Zealand manufacturing businesses, to indicate the techniques adopted in the business. While many studies have focused on particular techniques such as ABC or target costing, Adler et al. provided a questionnaire that included a vast array of management accounting techniques to provide a fuller set of response

options. Respondents were asked to rank in order the most used to least used. A judgement sampling method was chosen to achieve a response rate of 19% that provided 165 completed questionnaires upon a second mailing.

Traditional management accounting techniques, such as full costing, direct costing, and standard costing, were found to be used more often than advanced management accounting techniques, such as strategic management accounting. The study by Adler et al. (2000) is generally consistent with the lack of adoption of advanced management accounting techniques as stated by the Ainikkal (1993) and Hawkes et al. (2003) studies, but inconsistent with respect to individual techniques. Adler et al. found higher adoption of ABC, and cost of quality techniques and also that larger firms were more likely to use modern accounting techniques, though many firms planned to make changes in the years that followed.

Large manufacturing firms were selected and surveyed, by Chenhall and Lanfield-Smith (1998), for the only widely published study of Australian manufacturing firms. The response rate was high, at 56%, compared with other studies. There were a total of 78 responses after the second mailing. The survey asked accountants whether the business they worked in had adopted the management accounting technique stated in the survey. The results showed relatively high rates of adoption for all of the techniques, with the lowest adoption rate 38%. The high adoption techniques were adopted by 90% or more of the firms. Suggested reasons for the unusual high adoption rates were due to the chosen firms being large, and the situational differences of Australia.

2.3 Novel survey instrument

Garg, Ghosh, Hudick, and Nowacki (2003) analysed a survey of Institute of Management Accounting (IMA) members using the Web and e-mail. The IMA state worldwide membership, though that membership is mainly the USA. Many members are from the Middle East, Europe, and Asia. The survey was unlike many other surveys in using an electronic questionnaire. The survey had a response rate of 9% that was considered by the authors as equivalent with other surveys. The survey respondents were mainly (39.8%) from the manufacturing industry sector. Financial services (15.5%) and retail (5.1%) made up smaller proportions of the industry sectors. Small and large organisations provided similar responses.

The survey reported by Garg et al. (2003) was conducted in 2003 and found traditional management accountant techniques are still widely used and new cost management techniques are not a priority. The survey also found that the most widely used techniques were operational budgeting, quantitative techniques, traditional costing, and overhead allocation. The techniques used widely were also ABM & standard costing, capital budgeting, breakeven analysis, and transfer prices. Other techniques which were newer management accounting developments such as the balanced scorecard, value chain analysis, and supply chain costing were not adopted as often.

Of the various methods of establishing what organisations are demanding from management accountants, the studies previously discussed used surveys of

management accountant practitioners. The surveys of management accountants typically, have a response rate that is often less than 25% (for example see Adler et al., 2000; Garg et al., 2001, Hawkes, et al. 2003). For those surveys that do receive a response rate higher than 25%, the survey has a small sample size or relies on Likert scales.

Whether the response rate is low or high the surveys still have the inherent issue that responses are only from those that are willing and able to fill out a survey questionnaire. These survey methods have the disadvantage those responses from management accountants without time to complete the survey, or those that do not feel a need or will to complete the survey, are missed. Therefore the selected sample may be biased.

The previous surveys typically show that advanced management accounting techniques are used less or considered less important than traditional management accounting techniques. The techniques cited most often are standard costing, budgets, and forecasting. However, the different results of the surveys show that there is little consistency in the specific techniques used in practice. The contradictory results of the surveys make it unclear as to what is being practiced in management accounting.

2.1 Rationale for an alternative surveying approach

The methods used in previous surveys collect the views of practicing management accountants through the use of surveys and Likert scales. Likert scales provide many biases as the respondent may be uncertain or responses hastily completed with little thought of the actual answer. The respondent also needs to clearly understand the terms used for the different techniques. Interpretations of the survey results provide indications rather than compelling conclusions.

The survey methods reviewed above require responses to questionnaires. The responses are open to apparent respondent misunderstanding and social desirability bias (Adler et al., 2000, p. 134). The definition of techniques may not be known by all respondents. The surveyors themselves are aware that the reported rates of technique adoption are “tentative at best” (Bright, Davies, Downes, & Sweeting, 1992, p. 204).

Surveys use a sampling method to represent and generalise the findings to the remaining population. Few surveys use random sampling and the mail surveys reviewed above use judgment sampling to choose firms that are typical firms. Judgment sampling has inherent biases. A few of the surveys base the selection on large firms and only of manufacturing firms. Service firms are excluded unless convenience sampling is used to select members that belong to an organisation such as IMA or CIMA. With any of the sampling methods, the chosen person is required to answer the questionnaire with respect to the techniques that the surveyor uses rather than what techniques the management accountant uses.

Some of the surveys used for management accounting practices did not use Likert scales. The surveys asked respondents to fill in the techniques that they use or find

important. Each survey method has advantages and disadvantages of integrating bias into the samples.

The bias or sampling error is typically referred to as non-response error (Barnett, p. 58, 1991). The survey response rates of the management accounting research are as low as 9%. The response rates of management accounting surveys reflect the 9% to 20% median non-response rates of mail surveys (Christianson & Tortora, p. 247, 1995). The complete non-responses may be excluding a portion of the population of management accountants, such as those not interested in the survey or those that are too busy to answer the questionnaire. Adler et al. (2000) provide some signals to the non-responses.

While the Australian study provided the highest response rate of 56%, the Australian study also had unusually high responses of adopted techniques compared to other studies. There still remains a non-response bias and a sample selection bias. In addition to the non-response bias and sample selection bias, sample size is often small and secondary mail-outs are essential to achieve high response rates.

The current study avoids the disadvantages of the other sampling methods without relying on responding and without relying on Likert scales. A survey method that has not previously been applied to management accounting practices is a form of observational surveying that will be explained in the following section.

3 Method

3.1 Internet survey instrument

To gather information on the practices of management accountants, situations vacant advertising provides descriptions of the role that requires fulfilment. A situations vacant advert gives details about what is demanded of contemporary management accounting positions. Situations vacant columns have limited space for advertising so the advertisement would emphasise only the most important management accounting techniques.

A survey of situations vacant adverts of management accountants is also less intrusive to management accountants and chief financial officers who receive numerous survey questionnaires. An alternative approach to investigate practices of management accountants could be to interview management accountants. However, interviews are seen as intrusive and few interviews can be achieved compared surveys given the same amount of time.

There has been an upsurge in organisations listing situations vacant on websites, and it appears to be the new medium of advertising and finding vacant jobs (Aussie company strengthens, 2004). Situations vacant on the internet (online) were chosen for data collection and tabulation ease. Online advertisements also have the advantage of quick searches using key words, rather than manually searching through all adverts.

The observational internet sampling method has the disadvantage that it may have non-inclusion errors or coverage errors. These errors are from members, typically from a group of similar characteristics, of the target population not occurring in the sample (Barnett, p. 57, 1991). The coverage error of a situations website would exclude those firms that hire internally or use the traditional forms of advertising of the newspaper or professional journals.

Another possible sampling error could be caused from the advertising organisation selecting the techniques to publish in the advertisement to make the job position attractive to potential applicants. However, it is in the advertising organisations interest to publish accurate descriptions of the job position. Otherwise the job position would be different to that advertised and the management accountant may leave the organisation due to unfulfilled expectations. The higher the achiever the more likely the management accountant will leave the organisation to fulfil the expectations. The situations vacant advertising may be self regulating so that the advertisements accurately reflect the actual job positions.

The situations vacant position could be to interest potential applicants, or proxy for the most important or time consuming activities of the management accounting position rather than providing an accurate or true reflection of the job role. The actual reason particular techniques are stated in the job advertisement are unknown except that the organisation is emphasising particular techniques. This article intends to provide some ranking of the emphasis each management accounting technique receives.

3.2 Procedure and chosen website

This study collected the frequency of techniques that were listed in the role required by Management Accountants on a situations vacant website. Two surveys were conducted, one in 2004 and the other survey in 2005. Each time a technique was stated in the job advert, the technique was recorded. Any job adverts that were repeated were ignored.

Three situations vacant websites were selected to survey. Two of the three websites elicited few situations vacant adverts of management accountants; nzjobs.co.nz and jobstuff.co.nz. These two web sites were specifically for jobs in New Zealand, with NZJobs.co.nz the first New Zealand situations vacant site on the web, and is now owned by Melbourne based firm Seek.

The third website provided the most adverts of management accountants; seek.co.nz. This situations vacant website advertises the use of the site through national television in New Zealand, but it also provided similar numbers of New Zealand management accountant adverts as the other two sites. There were substantially more management accountant adverts in total from this site than the other two sites. The majority of the adverts were from Australian businesses. A recent newspaper article also revelled that this third website is rated as the most visited situations vacant website since 2001, and it also lists more adverts than competitors (Aussie company strengthens, 2004). This site lists over 5000 advertisements at any one time and has strong emphasise on

listing jobs in IT, accounting, finance, and management. Therefore this site was used for this study.

Techniques can be defined differently, and they can also be labelled differently. To reduce labelling error the management accounting adverts and techniques were recorded until saturation (no new techniques appeared). Surveying Management Accounting roles was done over four weeks to determine the breadth of techniques requested of management accountants. This survey method is referred to as the preliminary survey for the remainder of this paper.

The preliminary survey was conducted to determine the breadth and boundaries of techniques required of management accountants. A full set, of management accounting techniques, were then able to be compared to the response options of previous studies. The preliminary survey sampled 335 adverts. The preliminary study also allowed the most suitable techniques to be selected in the consecutive survey that followed. The consecutive survey essentially used the stated techniques in the Hawkes et al. (2003) study and surveyed the chosen website of essentially Australian advertisements. The preliminary survey could then be compared to the consecutive survey to check the results for consistency. Any differences between the results of the surveys may indicate why there exist differences in the results of survey questionnaires.

3.3 Sample data

The survey collected data and recorded information of the following; location, whether the firm was national or international, level of pay, level of responsibility, length of tenure, type of organisation, type of industry, type of computer systems in use, and the type of work (techniques) required by management accountants.

The preliminary survey period ran for four weeks during February 2004. Of the 335 adverts that were recorded, 325 indicated what location they were from. There were 29 (8.9%) from New Zealand, primarily from Auckland, and there were 296 (91%) from Australia, with the majority, 166 (56%) from Sydney. The majority of management accounting adverts were from Sydney, though the web site was Melbourne based.

The preliminary survey resulted in 77 firms that indicated whether they were international, or national. Of the 77 firms, 66 (86%) of them indicated an international status. International firms are appealing and provide opportunities and greater prospects of travel for employees. If firms are international firms, they would most likely advertise this. It would seem likely that firms that are not international will not advertise this, and this result in a smaller proportion of firms stating themselves as national firms. The number of national firms would be under represented in the sample.

A greater proportion of assistant positions were advertised than junior, intermediate, or senior. Of those positions that were stated, 28 of them were assistant positions, while 17 of these were senior positions, and one of the adverts was a junior position. The low number of advertisements that state the position and the higher number of

assistant and senior positions than junior positions may indicate that many of the advertisements of junior positions do not state the position because of low status and thereby receive lower number of job applicants. A high proportion of assistant positions or junior positions may not be involved with data recording issues rather than strategic issues and therefore strategic management techniques will not be recorded as often.

Service organisations may use different techniques to manufacturing firms. The service sector has also been growing relative to the manufacturing sector, so the type of organisation was recorded in the survey. The type of organisation was classified as either manufacturing or service industry, in the survey, if the advertisement provided enough information. Of the 108 that indicated the type of organisation, the majority (56.5%) were from service organisations. The finance industry made up 40 of the organisations, while food, consulting, and technology producers also provided high frequencies in the survey.

These industry sector results are consistent with a 2003 salary survey from New Zealand that showed that the majority of management accountant positions are in service organisations. The New Zealand survey (New Zealand salary benchmarks, 2003) found that 67% of management accountants work in service organisations.

There were 37 adverts sampled in the consecutive survey that determined techniques required as stated in the situations vacant website. There were 17 manufacturing firms, 11 retail firms, and 9 service firms. The results of the survey are below.

The position of the job often is not stated in the advert and is typically an assistant or senior position. The website may under represent the number of junior management accounting positions. The assistant position is consistent with many of the organisations offering positions for less than 12 months possibly to cover new project implementations or for other expected role demands.

The majority of organisations hiring management accountants are typically in the service industry and are considered finance organisations. A question arises as to whether these findings also occur in other situations vacant sites such as the newspaper.

4 Results

4.1 Preliminary survey

There were a total of 36 techniques mentioned in the preliminary situations vacant survey. The techniques that were recorded in the adverts are listed below in table 1. The table lists the techniques in order of frequency in the adverts.

Table 1. Management accounting techniques recorded from preliminary survey.

Technique	Frequency	Percentage	Order
Budgets	205	61%	1
Reporting	189	56%	2
Analysis	179	53%	3
Financial	170	51%	4
Forecasting	133	40%	5
Costing and expenses	101	30%	6
Variance	77	23%	7
Projects & capital expenditure	61	18%	8
Performance measures	49	15%	9
Process systems maintenance /improvement	48	14%	10
Support or report to manager	45	13%	11
Revenue/price/profit	41	12%	12
Liaising	36	11%	13
Inventory	30	9%	14
Process systems development	27	8%	15=
Cash flow	27	8%	15=
Supervising/leadership/training	27	8%	15=
Process systems implementation	21	6%	18
Key performance indicators	17	5%	19
Control	16	5%	20
Commentary	13	5%	21
Continuous improvement	12	4%	22=
Strategy input	12	4%	22=
ABC	11	3%	24
Economic or trend analysis	10	3%	25
Standard costing	9	3%	26
Planning	4	1%	27
Minimising costs	3	<1%	28=
Foreign currency	3	<1%	28=
Accurate product costing	2	<1%	30=
Writing	2	<1%	30=
Value added	2	<1%	32
Administration	1	<1%	33=
Incremental	1	<1%	33=
Supply chain	1	<1%	33=
Capacity	1	<1%	33=

Process systems were a widely stated tool, but for the majority of adverts, process systems were further classified as process system development, implementation, or maintenance and improvement.

The techniques: budgets, reporting, analysis, and financial appeared in more than 50% of the job adverts. The term financial in the job adverts was typically described as those techniques used by financial accountants. Techniques that appeared less than ten times were: planning, minimising costs, standard costing, accurate product costing, administration, value adding, foreign currency management, incremental analysis, and supply chain techniques.

Rather than strategy and specific costing techniques, management accountants appear to be dealing with revenue, prices, and profits more often. Revenue, price and profit appeared in 12% of the adverts, which is more often than any of the subtopic costing techniques.

Another tool worth considering is performance measurement. This tool appeared in 15% of the adverts. This figure excludes the specific performance measurement item of key performance measures, which was set aside as a subtopic.

The use of computer programmes required by job applicants was also recorded in the preliminary survey. The survey indicated that there were over 20 different types of programmes that were required by management accountants across more than 143 job adverts. Of those computer programmes, the ones that featured most often were Excel (83), SAP (27), BAS (12), ERP (11), and Oracle (10) (frequencies shown in brackets). Other less frequent programmes were Access, JDEdwards, MYOB, Hyperion, and Microsoft programmes such as Peoplesoft, Microsoft Word, and Microsoft Powerpoint.

4.2 Consecutive survey

The frequency of times techniques were stated in an advert, for the consecutive survey, is recorded in Table 2. The techniques have been ordered in the table based on the number of times the technique was stated in the advert.

Table 2. Management accounting techniques recorded from consecutive survey.

Technique	Frequency	Percentage	Order	Order (Hawkes et al.)
Management Reporting	30	81%	1	*
Forecasting & Planning	23	62%	2=	*
Operational Budgeting	23	62%	2=	2
Cash flow Management	16	43%	4	1
Capital Budgeting	15	41%	5	5
Strategic management Accounting	10	27%	6	6
Variance Analysis	9	24%	7=	3
Responsibility Accounting	9	24%	7=	21
ERP Systems	7	19%	9	12
Performance Evaluation	5	14%	10=	4
Product Costing	5	14%	10=	8

Customer profitability	5	14%	10=	7
Variable Costing	3	8%	13	20
Process Costing	2	5%	14=	13
Behavioural Implications	2	5%	14=	19
Costs of Quality	2	5%	14=	18
Benchmarking	2	5%	14=	*
ABC	1	3%	18=	9
Ethical Issues	1	3%	18=	14
Transfer Pricing	1	3%	18=	15
Balanced Scorecard	1	3%	18=	*
Cost Volume	0	0%	22=	10
Standard Costing	0	0%	22=	11
ABM	0	0%	22=	16
Job Costing	0	0%	22=	17

* *Additional techniques were added to the list of Hawkes et al. (2003) as literature or previous survey indicated the techniques were typical.*

Management reporting, forecasting and planning, budgeting, and cash flow management are techniques frequently appearing in the situations vacant website for the consecutive survey. Budgeting, planning, and reporting each occur in more than 50 % of the adverts.

4.3 Comparison of surveys

The citing of techniques in adverts as a percentage of total adverts is marginally lower in the preliminary survey than the consecutive survey. As an example management reporting occurs in 81% of the adverts in the consecutive survey and appears in 56% of the adverts in the preliminary survey. The technique with the highest citing in the preliminary survey was budgeting that occurred in 61% of the adverts.

The top seven frequently appearing techniques in the consecutive survey are consistent with the most frequently appearing techniques in the preliminary survey. The consecutive survey had reporting, forecasting, budgeting, and variance analysis in the top seven recorded techniques. The preliminary survey also had reporting, forecasting, budgets, variance, and analysis in the top seven recorded techniques.

The top seven techniques of the preliminary survey that did not make the top seven of the consecutive survey were financial, and costing and expenses. The financial technique was not a stated technique in the consecutive survey. The costing and expenses technique was separated into specific costing methods such as product costing and variable costing, which ranked highly in the consecutive survey.

The top seven techniques of the consecutive survey that did not make the top seven of the preliminary survey were cash flow management and strategic management accounting. These two techniques were ranked 15th and 22nd respectively.

Analysis was often stated together with reporting in the preliminary survey adverts. Analysis appeared 179 times out of 335 adverts (53%), of which 109 times (60%) analysis was recorded the reporting technique was also recorded. From the statement of these two techniques in the job advert, it appears that the management accountant would be required to conduct an analysis, and then report on that analysis.

The techniques budgeting and forecasting were often stated together in adverts. The technique budgets appeared 205 times out of the 335 adverts (61%). Forecasting and budgeting appeared in the same advert 117 times (88%) out of the 133 times forecasting appeared in the adverts.

Upon searching a few adverts that were not listed as management accountants, for example financial accounting, the job descriptions stated the use of techniques that would normally be undertaken by management accountants. But these job descriptions did not include the techniques; budgets or forecasting. If budgeting or forecasting were stated in a job role, then this would be listed as a management accountant role.

5 Discussion

5.1 Discussion of results related to literature

The preliminary survey resulted in budgets, analysis, forecasting, and capital expenditure ranked high at first, third, fifth, and eight respectively. The equivalent techniques in the Chenhall and Langfield-Smith study are ranked in the top nine techniques as high adoption by firms. The consecutive survey also resulted in the top six ranked techniques considered high adoption in the Chenhall and Langfield-Smith study.

The results of the preliminary survey had techniques that were termed in a different way to previous studies. The following techniques illustrate the difference between the terms used in the preliminary study and that of Chenhall and Langfield-Smith: the equivalent budgeting technique is budgeting for planning, the equivalent analysis is budget variance analysis, and the equivalent forecasting is long-range forecasting. The different terms for techniques used in surveys provide a possible reason why the adoption rates were high in the Chenhall and Langfield-Smith study compared to other studies.

The internet surveys, specifically the consecutive survey, are consistent with the Hawkes et al. (2003) survey that find the advanced management accounting techniques emphasised less often than traditional techniques. ABC, ABM, and costs of quality were cited infrequently in the internet surveys and thereby those techniques were ranked low. Other infrequently cited advanced techniques were value added and supply chain. The Balanced Scorecard and benchmarking are narrowly defined techniques that also received infrequent citing in the situations vacant website. Strategic management accounting was the most frequently cited advanced management accounting technique in the adverts.

The top five frequently reported techniques in this study of operational budgeting, cash flow management, capital budgeting, strategic management accounting, and variance analysis were also within the top six techniques used by management accountants as found by Hawkes et al. (2003). After the first seven techniques, in order of frequency in this study, the remaining techniques are not consistent with Hawkes et al. (2003).

Responsibility accounting receives much more importance in this study, ranking it at seventh equal as opposed to Hawkes et al. (2003) that ranked the technique at 21. ABC, cost volume, and standard costing are ranked lower in this study. This study also ranks ERP systems ahead of performance evaluation and ranks ERP systems ahead of the order given by the Hawkes et al. (2003) study.

Some of the formerly traditional management accounting topics such as product costing, minimising costs, and standard costing are infrequently stated in the job adverts. The low frequency on particular techniques is consistent with the study of Burns and Vaivio (2001) that find that accountants are dealing less with cost issues. However, the low frequency of particular techniques does not indicate that the technique is not used by management accountants. A technique that is often used and taken for granted as a core activity may not be stated in adverts as adverts are attempting to attract people using unusual or other interesting techniques.

5.2 Generalisation of survey results

It is apparent from the preliminary survey that as over half of the adverts of management accountants are also required to do some financial accounting, financial accounting and management accounting still have some important overlaps and should be emphasised and taught conjointly in educational environments.

The link of financial accounting and management accounting appears to be present in the results, but the coinciding occurrence may not necessarily occur in any one single management activity. The management accounting activity valuing inventory is required for the completion of financial statements. The activity of valuing inventory is interrelated to financial accounting and is one example why management accountants may be involved in financial accounting roles. The financial accounting and management accounting link may also be through various topics such as cash flow management, or other techniques such as analysis or reporting.

In the past the calculation of product costs defined the job role as a cost accountant or management accountant. The high frequency of budget and forecast techniques shows that these techniques are emphasised for a management accountant position. The high frequency of budget and forecast techniques in the job adverts provide a hint that the inclusion of budgeting and forecasting in a job role defines that role as a management accounting position.

Defining the management role using the internet survey approach relies on the advertisements being a true reflection of the practices of the successful job applicant. More investigation is required to determine how Human Resource departments create the wording in advertisements.

Reporting and forecasting & planning were frequently cited in the situations vacant adverts. A claim could be made that these techniques are activities rather than techniques. While a certain extent of the accountant's role must do these activities, techniques must also be used to report, forecast and plan.

There is the possibility that those advertising the jobs may consider product costing, minimising costs, and standard costing as subcomponents of costing and expenses and therefore; label these subtopics generally as costing. The results of these subcomponents may be under-represented. Even though these techniques may be underrepresented, if those advertising the job did not consider these techniques as important or a large component of the job, then they are unlikely to specify the sub-technique and are therefore minimising the importance of these techniques. If these techniques are minimised, then it shows they are not an important aspect or large component of the job and further highlights the comparative difference between techniques in the results of this survey.

To appear interesting to potential job applicants, organisations would be expected to advertise the use of the latest techniques of management accounting. The emphasis on traditional management accounting techniques rather than the advanced techniques provides an indication that organisations are not stating techniques to appear interesting to potential applicants.

However, this study includes a higher proportion of service organisations than other surveys. Therefore the results of few adverts citing advanced management techniques may be due to service firms unable or unsure how to implement modern management accounting techniques. Indeed service firms have found management accounting systems to be important but infrequently used (Hussain, Gunasekaran, & Laitinen, 1998). Hussain and Gunasekaran (2002) also found four financial institutions that rated management accounting systems in performance as somewhat important and sometimes or partly used.

However service firms are able to use advanced management accounting techniques; see Management Accounting (1993) for an example. Mohamed and Hussain (2005) found that the use of performance measurement models is related to management's views and discretion, economic and social constraints, and competition. The design of the management accounting control systems is also related to the service process type, business strategy, and stage in the organisational life cycle (Auzair & Langfield-Smith, 2005).

6 Conclusion

The management accounting role is vast and involves many techniques. The various techniques of reporting, forecasting, budgeting, cash flow management, strategic management accounting, and variance analysis found to be emphasised in situations vacant positions corroborates with other mail survey studies. Further research of how widely these techniques stated in the advertisements are actually used in organisations should be conducted. If the actual use of the techniques is confirmed, then education

should focus on including these techniques in the textbooks and courses of management accountants.

The two different internet survey methods used in this study have shown consistent results. Management reporting, forecasting & planning, operational budgeting, and capital budgeting had high occurrences of situations vacant advertisements in both internet surveys.

The internet surveys have also shown consistencies and differences to previous postal surveys. Cash flow management, operational budgeting, capital budgeting, strategic management accounting and variance analysis had high occurrences in the situations vacant adverts and were rated important by some postal surveys. There seems to be some correlation between the importance ratings of mail surveys and the emphasis placed in situations vacant advertisements.

The emphasis of financial accounting techniques in the Australasian advertisements is a clue that organisations expect management accountants to work with financial accounting techniques. What needs to be investigated is whether the descriptions in the job advertisements corroborate with what is actually done in a management accounting role after employment. To make sure that management accountants are familiar with financial techniques and financial accounting, it is recommended that financial accounting be conjointly taught to management accounting students.

Management accountants are expected to frequently conduct reporting and also to use computer programs, especially Microsoft Excel. Those intending to become a management accountant should therefore become familiar with computers and the computer programs available that may be relevant to them in their management accounting role.

The internet survey method provides an alternative method of researching techniques emphasised in management accounting positions. As the internet observation surveys used a situations vacant website any changes, in the advertisement descriptions, could be due to hype or need to attract interest in the job position. The approach could be applied again to investigate whether the changes in techniques emphasised by management accountant roles are enduring changes.

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