A Gap in Management Accounting Education: Fact or fiction?

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Abstract

Purpose: The aim of this paper is to identify and gain insights into the gap that persists between management accounting education and practice.

Design/ Methodology/ Approach: Management accounting education is examined from the four perspectives of the balanced scorecard: customer satisfaction, learning and growth, internal business and finance. The academics and practicing management accountants were selected randomly from the South African community for the study.

Findings: The study establishes that differences exist between the perception of academics and practitioners regarding the perceived role of management accountants in business today.

Research limitations/ implications: As one of the few studies on gaps between management accounting education and practice, the study provides insights to the potential gaps. The findings serve as a basis for further empirical and theoretical enquiries.

Originality/ Value: The study extends the management accounting literature by suggesting that management accounting students are not developed with required skills to face the challenges in today's business environment.

Key Words: accounting education, academics, practitioners, gap, balanced scorecard

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1. Introduction

The purpose of management accounting has changed over recent decades (Tucker & Lowe, 2014; Su et al., 2015; Gaffakin, 2009; Deppe, Sonderegger, Stice, Clark & Streuling, 1991; Botes, 2009; Francis & Michington, 1999). Management accounting started in the latter half of the 20th century as a provider of relevant information to managers, in order to help them to make the best decisions. Best decisions were generally measured in terms of how large the value added to the business valuation was in the short term:

> …there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud (Friedman, 1970, p. 125).

During the latter half of the 20th century commentators suggested that managers should not be totally focussed on profits alone because this was responsible for corporate behaviour that was contributing to social, environmental and other problems in society (Burns & Vaivio, 2001; Tan, Fowler & Hawkes, 2004; Scapens, 2006; Berry *et al.,* 2009; Cordery, 2013). There have been several attempts to change the reporting focus of management accounting, to have it encourage better business decision making in terms of overall benefits to society.

Management accountants have been repositioning themselves, for some time, as 'business advisors' rather than focusing solely on the narrow financial aspects of management accounting (Francis & Michington, 1999). Many practising management accountants have moved to service the information needs of managers who have developed interests in: sustainable business, stakeholder management, integrated reporting and a host of new techniques. (Botes, Chapman & Low, 2014; Burns & Vaivio, 2001; Scapens, 2006; Tan, Fowler & Hawkes, 2004; Sharma, Lawrence & Lowe, 2010). A range of new management accounting techniques emerged, for example: Activity Based Costing (ABC), Balanced scorecard, economic value added, costs of quality reporting, strategic management accounting (Adler et al., 2000; Tan et al., 2004) , yet allegations persist that a gap exists between management accounting education and practice in contemporary management accounting. The gap referred to is defined according to Fowler's English Dictionary as both an "*unfilled space*" and used to express *'a divergence in views, sympathies, development, etc.'*

The paper identifies and gains insights into the gap that persist between management accounting education and practice using the balanced scorecard (BSC) approach. Any gap may suggest a need for changes to management accounting education to meet the needs of the profession. This paper further contributes to the extant literature as little research has been conducted in South Africa evaluating management accounting education (MAE) using any of the 'new management tools'. The paper adopts the methodology employed by Chang & Chow (1999) in the US, who use the BSC lens.

The paper utilises a BSC approach, rather than other forms of performance measurement based on Chang & Chow's (1999) analysis in North American universities, which examines the state of accounting education through a BSC lens and suggested 32 ratios which could be used to measure successful performance of academic departments. (see appendix1) As goals and performance indicators developed for each of the perspectives are derived from an organisation's mission and strategy, a balance is required between measures developed for external parties (e.g. shareholders and customers) and those developed for internal parties (Kaplan, 2012; Norreklit *et al.,* 2012). Although there has been extensive

research into the use of the BSC practices in the business sector, very little research has been documented regarding the application of the BSC practices in the education sector (Sayed, 2013; Karathanos and Karathanos, 2005; Chang & Chow, 1999).

The paper is organised as follows. Section 2 presents the literature on management accounting education. Section 3 outlines the research design for the study and section 4 presents the results for the study. Section 5 provides the discussion for the study and section 6 concludes the paper.

2. Global views on a gap in management accounting education.

Scapens (1983, p.34) refers to a gap between education and practice in management accounting and criticises the (then) current generation of management accounting textbooks as being of limited use in practice. Ryan (2004) suggests that higher education has not moved quickly enough to keep pace with the changes taking place in the world. Kaye (2004:13) points out that a few academics have kept up to date with the changing business environment; which raises serious concerns about academia's ability to prepare candidates adequately for today's business environment. Siegel and Sorensen (1999) suggest that universities must obtain a better understanding of the work performed by management accountants in modern corporations if they wish to meet the needs of students and corporate customers. Tucker and Lowe (2014) point out that academia and practice are 'worlds apart'- so much so that some observers are sceptical about whether a close relationship is possible, or even desirable. For many academics, a disconnect between academia and practice is still the prevailing experience (Tucker & Lowe, 2014).

Despite calls for major reforms of accounting education, (Kavananagh & Drennan, 2008; Jackling & De Lange, 2009) much literature (Albrecht and Sack, 2000; Craig and Amernic, 2002) suggests that education is great for helping people to think and know things, but it fails to prepare students to be able to deliver on work-based projects - that is 'how to do things'. Parker (2002) expresses concern about the ability of accounting education at university to prepare students to meet future business demands. Guthrie, Burrit and Evans (2012) and Sikka (2009) expresses concerns about the link between MAE and professional training. The management accounting education process and the skills this process cultivates in students are under widespread discussion (Deppe *et al.,* 1991). The following quote represents the concerns expressed by both individuals and groups:

> "The practice of accounting is changing rapidly. Its geographic reach is global, and technology plays an increasingly prominent role. A new generation of students have arrived who are more at home with technology and less patient with traditional teaching methods. All this is occurring while many accounting programs and requirements have remained constant, and accounting curricula have evolved with limited commitment or agreement about the core learning objectives. Vital programs, courses, and approaches require systematic attention to curriculum and pedagogy and opportunities for renewal."
>
> (American Accounting Association Pathways Commission, 2012)

While the Bedford Committee (1986) already determined that achievement of an effective education program that meets future needs will require a revised, expanded curriculum the Pathways Commission report (2012) stresses the urgency with which this should take place. The thrust of these recommendations is that we concentrate not only on technical subject matter, but also on the development of analysis, problem solving, communication and synthesis skills. The Pathways Commission report (2012) proposes to build a learned profession for the future by purposeful integration of accounting research, education, and practice for students, accounting practitioners, and educators.

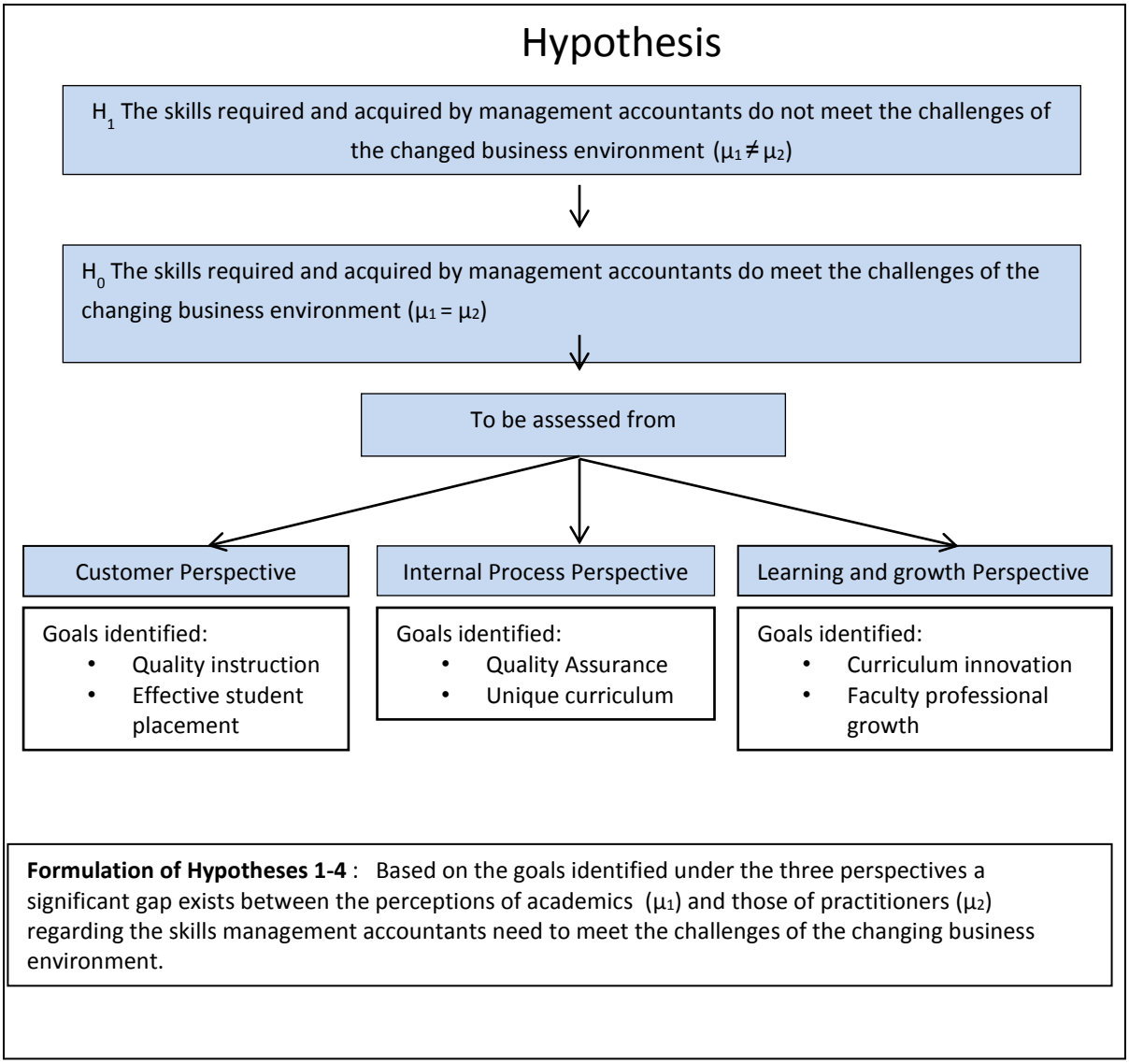
According to Bui and Porter (2010) while employers appear to believe that universities should prepare students to become competent members of the workforce, most academics consider that universities have a key role in developing students' intellectual capability and ability to 'challenge conformity and convention' and think independently. In their study, the employer interviewees conveyed different expectations with regard to accounting graduates possessing thinking skills (i.e. independent thinking and problem-solving skills). From the reviewed literature, we develop the following hypothesis:

> H1: The skills required and acquired by management accountants do not meet the challenges of the changing business environment.

3. Research Design

Using the BSC approach proposed by Chang and Chow (1999) as a measuring instrument (see Appendix 1), a hypothesis was formulated, as indicated in Figure 1, that there is a significant gap between the perceptions of academics and those of practitioners relating to management accounting education.

Figure 1: Formulation of the research hypothesis



As it was viewed that the majority of practitioners would not have an appropriate understanding of the financial operations of tertiary institutions and Sayed (2013, p.207) purported that "not for profit organisations like universities strive to deliver mission outcomes and not superior financial performance". For the purpose of this paper it was decided to omit the financial perspective on the educational environment for MAE

Hypotheses were formulated to determine the perceptions from three of the perspectives of the BSC, as identified and adapted from the Chang and Chow (1999) study.

Hypothesis 1a:
From a **customer perspective**, academics consider **MAE provides** a highly valued programme, resulting in effective student placement of students adequately prepared to meet the challenges of a changing business environment.

Hypothesis 1b:
From a **customer perspective**, management accounting practitioners consider MAE, a highly valued programme which provides effective students for placement, well prepared to meet the challenges of a changing business environment.

Hypothesis 2a:
From an **internal business process perspective**, academics consider MAE is well supported by the existing systems which enable them to prepare students adequately to meet the challenges of a changing business environment. These are evidenced by considering quality assurance, a unique curriculum, cost efficiency and optimal class size adequate preparation to meet the challenges of a changing business environment.

Hypothesis 2b:
From an **internal business process perspective**, practitioners consider quality assurance and a unique curriculum adequate preparation to meet the challenges of a changing business environment.

Hypothesis 3a:
From a **learning and growth perspective**, academics consider curriculum innovation, teaching innovation and professional growth of the faculty adequate to allow them to prepare students adequately to meet the challenges of a changing business environment.

Hypothesis 3b:
From a **learning and growth perspective**, practitioners consider curriculum innovation, teaching innovation and professional growth of the faculty as inadequate preparation to meet the challenges of a changing business environment.

Hypothesis 4:
A significant gap in management education will exist if the perceptions of academics regarding hypotheses 1a, 2a and 3a and those of practitioners regarding propositions 1b, 2b and 3b of the skills management accountants need to meet the challenges of a changing business environment are divergent.

3.1 Defining the population and sample size

The population consisted of two groups of management accountants in South Africa, those in practice (practitioners) and those in academe (educators) at tertiary institutions. Each university's accounting department was contacted by telephone to determine the person responsible for management accounting education, and a target group of 14 was obtained.

Although this could be seen as a relatively small number for statistical analyses, it was a targeted group of academics who would display the necessary characteristics and knowledge of managing the department and teaching management accounting at the tertiary institutions. These characteristics were important in order to ensure that the academic would not be isolated from the workings of the tertiary institution.

The second target group (the practitioners) was selected by identifying accountants employed in the field of management accounting. Selection of these practitioners was based on information obtained from the CIMA. It was thought that management accountants in practice would be aware of requirements and developments in their field and could therefore offer knowledgeable opinions on the skills required. This target group consisted of 1,200 practising management accountants. A random sample of 600 practicing members was selected according to a CIMA-generated computer program. Although 600 e-mails were initially sent out, only 105 responded (18%). The response rate was low but not unusually so for research projects such as this. We regard it as large enough to make inferences about the total population (Hussey & Hussey 1997).

Two self-administered questionnaires were designed. One was emailed to management accounting practitioners and the other to targeted management accounting academics, together with a covering letter. The statements in questionnaires were based on, and adapted from the BSC developed for academic departments by Chang and Chow (1999) and is illustrated at Appendix 1 The practitioner questionnaire did however contain questions which would correspond to the questions in the academic questionnaire in order to test proposition 4 formulated earlier. The corresponding questions are outlined in Appendix 2. The manner in which hypothesis 4 is tested (See Appendix 2) can be illustrated by referring to statement B1.1 from both questionnaires. By obtaining a "strongly agree" response to the statement from academics, it is clear that academics, as Chang & Chow(1999) suggest do consider the customer perspective and this answer will also assist to support hypothesis 1a. If there is no gap between perceptions from academia and practice we would expect when we refer to statement B1, in the practice questionnaire, that practitioners will also agree that they (as alumni) are approached by the universities to complete said evaluations. However if practitioners do not agree that they are approached by universities to complete said alumni evaluations, not only will it not support Hypothesis 1b, but the comparison between the two will indicate a gap between the perceptions of academics and practitioners regarding the customer perspective as defined by Chang & Chow (1999).

Measures were taken to overcome the disadvantages of self-administered questionnaires. Pre-tests were done to identify problems and to avoid confusion in terms of the wording or layout. Capture errors were avoided by having the responses submitted via a special link to the internet and into a storage file. The questionnaires were compiled and pre-coded. A pilot test was done for the practice questionnaires by sending it to 5 MBA students at University of South Africa (Unisa); these students worked as management accountants. The academic questionnaire was pilot tested by 2 academics in management accounting at Unisa. Based on the information obtained, hypotheses were formulated to address each argument; which are shown in Appendix 2. A five-point Likert scale was used to measure the perceptions of respondents. The Likert scale ran from 1 (strongly disagree) to 5 (strongly agree). Scale reliability was determined by calculating the Cronbach (1955) coefficient alpha. An item analysis for all perception scores was conducted beforehand to eliminate unreliable items.

Since the sample for academics is small, the non-parametric Kolmogorov-Smirnov one-sample test was used to test the hypotheses for academics (Steyn, Smit, Du Toit & Strasheim 1994). We were unable to increase the sample size but we believe that our statistical approach did enable us to provide reasonable and valid results. The sample for

practitioners was much larger and a normal distribution was assumed for sample means. The one-sample t-test was used to test the hypotheses for academics (Steyn et al., 1994).

4. Results

The response rate of the targeted academic group was 79% (11 responses out of 14). It compared well to report response rates to similar studies conducted elsewhere (Konar, 1989). Nevertheless, the sample size is small and it therefore served no purpose to repeat the reliability test for the academic questionnaire. The Cronbach coefficient alpha test (CORR) was performed for those items that were theoretically expected to correlate with each other. The alpha coefficient score was 0.7 for the overall value of management accounting education and that was within acceptable limits. Item analysis showed acceptable totals for all items except for quality instruction as part of the customer perspective (Appendix 1). Removing this item would increase the alpha coefficient score to 0. 71.

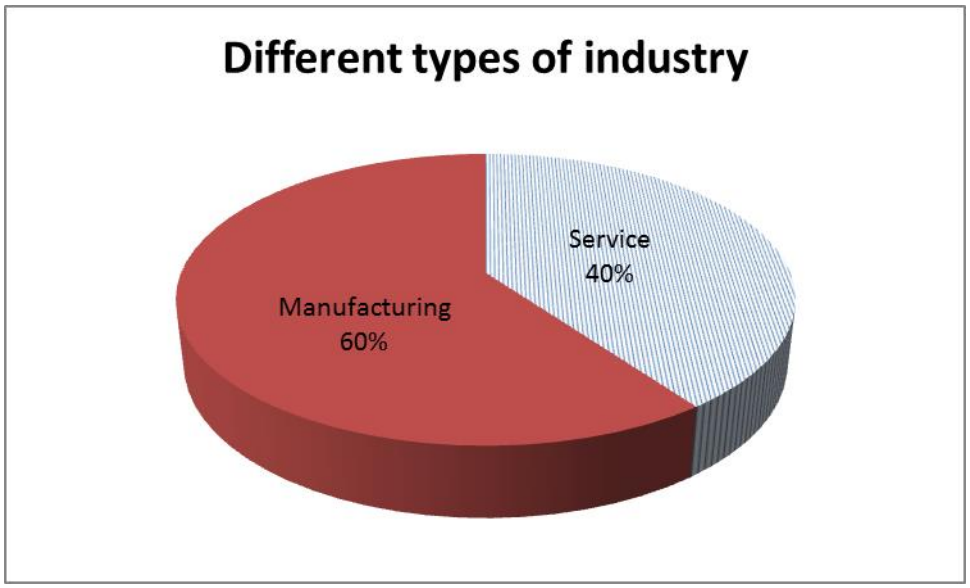
4.1 Statistical analysis and data presentation

The research design was conceptualised to facilitate statistical analysis of the research findings. Most of the data were summarised by means of parametric exploratory and inferential statistical data analysis. An appropriate statistical test was used to test the null hypothesis (Figure 1). As two samples were involved, it had to be considered whether individual cases were independent or related and whether the measurement scale was nominal, ordinal, interval or ratio (Cooper & Emory 1995). The relationship between the perceptions of the two subpopulations was studied and as there were no ordering values, the measurement scale was nominal (Cooper & Weekes 1983:38). For tests based on a decision tree, as suggested by Martins, Loubser and Van Wyk (1996), it was decided to use the chi-squared test of independence. The chi-squared test for significant differences between the observed distribution of data between the two subpopulations and the expected distribution based upon the null hypothesis were used (Martins, et al., 1996).

4.2 Biographical Information

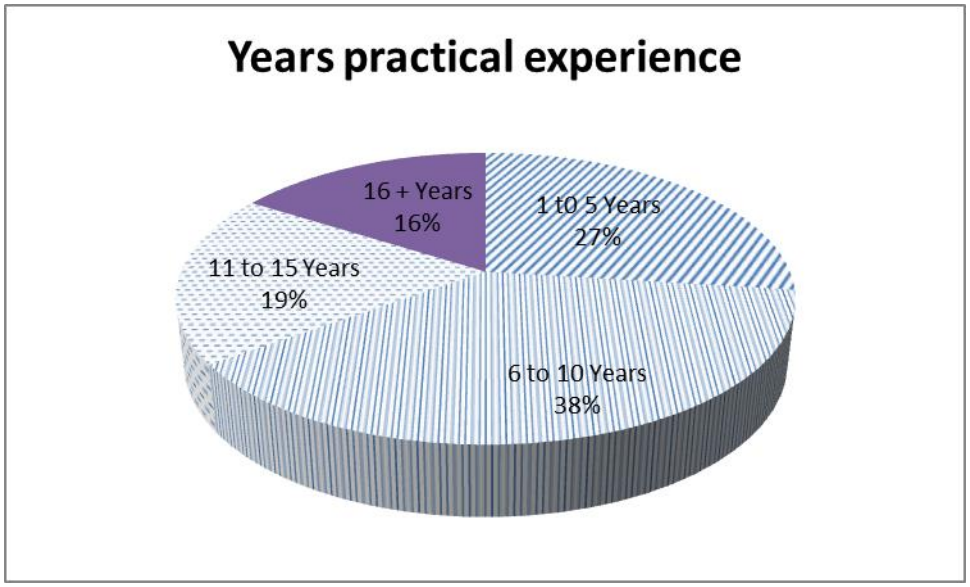
The biographical information obtained from practitioners dealt with the size and type of organization. Results indicated that most management accountants were employed by corporations with 1000 and over employees. The results are shown in Figure 2

Figure2: Different types of Industry



The experience of management accountants, 40% in manufacturing and 60% in service industry were further analysed to determine the relevance of their current university education knowledge as well as whether they had adequate practical experience to provide informed answers. The results are indicated in Figure 3

Figure 3: Practical experience



Of the sample, sixty five percent indicated that they had adequate practical experience (between 1-10 years) and had been educated recently enough to provide informed responses.

Analysing the biographical information of academics indicated that they represented academic institutions with between 5000 - 40,000 students. In view of the small sample size of academics it was decided to respond on the frequency of responses rather than the percentages to avoid distorting the results. Figures for academics will therefore indicate the number of respondents (out of 11) that indicated a particular choice.

4.3 Descriptive statistics: practitioners

In the questionnaire the practitioners were asked to report on their perceptions of tertiary management accounting education. By asking a number of questions relating to different aspects of tertiary management accounting education, practitioners were asked about their perceptions of

- the overall value of management accounting education the manner in which management accounting is taught at tertiary institutions
- which aspects of tertiary education did practitioners view as important for practitioners to be able to do their jobs.

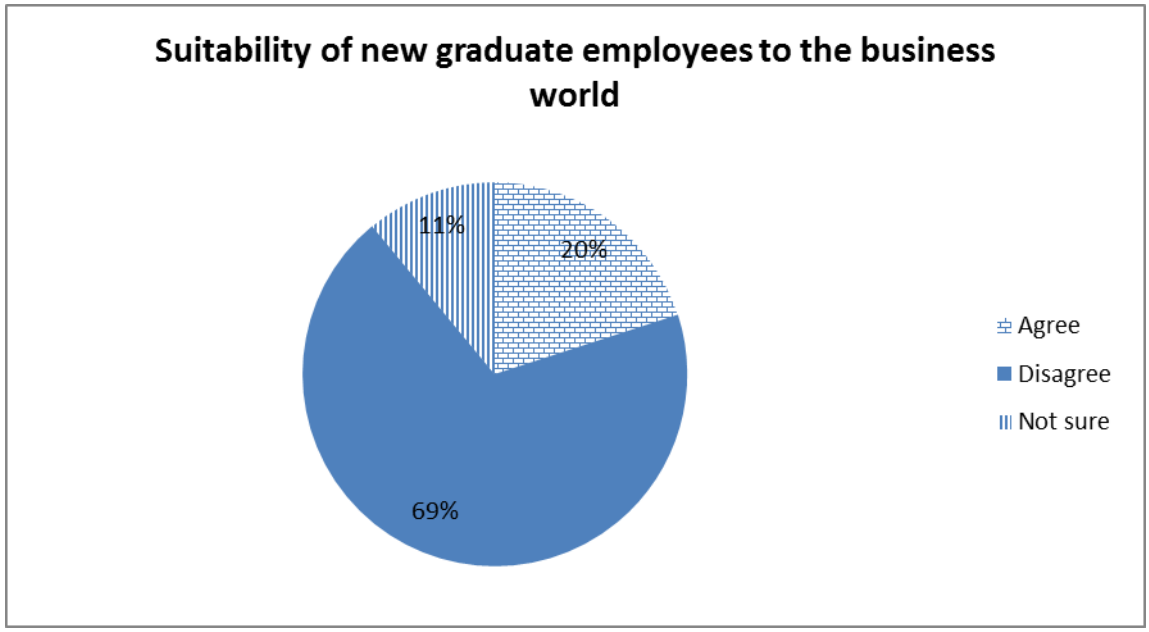
While we tried to obtain the perceptions of practitioners separately, it was important that some of the statements in the subsections of the practitioners' questionnaire could link to similar questions in the academic questionnaires in order to corroborate the findings and test our hypothesis as explained earlier.

Analysing the statements relating to how practitioners perceived the overall value that can be gained from studying management accounting at tertiary institutions indicated that practitioners did not believe that universities approach graduates, employees or alumni to

determine the quality of their management accounting education. Moreover 69.7% of practitioners did not agree with the statement that businesses recruit new management accountants on South African tertiary campuses.

The perceptions of practitioners regarding management accounting instruction at universities were tested among others by asking how suitable practioners believed new MAE graduates are to the world of business. The results are illustrated in Figure 4.

Figure 4: Are new management accounting graduates immediately suited to practice



Analysing the result of responses to the 5 point Likert scale indicated that 69% of practitioners do not agree that graduate employees are immediately suited to the world of business, a point also raised by Ryan (2004); Siegel and Sorensen, (1999) and Guthrie, Burritt & Evans (2012). Half (50.5%) of the practitioners did not agree that new recruits are adequately prepared at university to make presentations. Only 44.7 % of practitioners believed that academics were sufficiently informed about management accounting practice.

Table 1: Frequency of responses from practitioners: Perception of the instructional offering of management accounting at universities

Statement in questionnaire	Strongly disagree (SD) (%)	Disagree (D) (%)	Not Sure (NS) (%)	Agree (A) (%)	Strongly Agree (SA) (%)
1.Management accounting education is quite applicable to business world requirements	0	1.9	1.9	37.9	58.3
2.New recruits are adequately prepared at university to make computer presentations (e.g. using Excel for budgets)	12.6	37.9	25.3	21.3	2.9
3.Academics' knowledge of management accounting practice is adequate	3.9	30.1	21.3	41.8	2.9
4.The problem-solving abilities of new management accounting employees are excellent	3.9	26.5	27.5	39.2	2.9
5.New graduate employees are immediately suited to the world of business	18.5	50.5	10.7	17.4	2.9
6.Business should make more financial contributions to universities if they need more relevant qualifications	1.9	16.5	9.7	45.6	26.3

A majority of practitioners (71.9%) felt that business should make more financial contributions to universities if they need more relevant qualifications.

The next section in the questionnaire, contained statements which focused on the perceptions of practitioners on the requirements from management accountants in practice and responses are illustrated in Table 2.

Table 2: Responses from practitioners on perceptions of what is required to do a management accounting job well.

Statement from questionnaire	SD (%)	D (%)	NS (%)	A (%)	SA (%)
1.Skills and abilities are as important in business as theoretical knowledge	0	1.9	0.9	43.3	53.9
2.Management accounting education should make greater use of real-world cases	0	2.9	2.9	51	43.2
3.Academics' knowledge of the demands in management accounting practice is inadequate	4.9	30.1	28.2	33.0	3.8
4. Academics are leading practice in management accounting innovation	6.8	29.1	34.9	26.2	3.0
5.New management accounting graduates are adequately prepared for writing business reports	8.7	44.7	14.6	28.2	3.8
6. Management accounting practice has undergone radical change during the past five years	1.9	11.7	14.6	44.7	27.1

Practitioners clearly indicated that skills and abilities are as important as theoretical knowledge as 97.2 % of the respondents agreed with this statement. Ninety four percent (94%) of practitioners were of the opinion that management accounting educators should make greater use of real world cases, and only 36. 8% believed that academics had sufficient knowledge of the demands of practice. Only 29. 2 % of practitioners believed that academia was leading practice in terms of management accounting innovation. The fact that 53.4% of practitioners did not agree with the statement that management accountants were adequately prepared at university to write business reports is a matter of concern. Seventy two percent of the practitioners agreed that management accounting practice had undergone radical change during the past years.

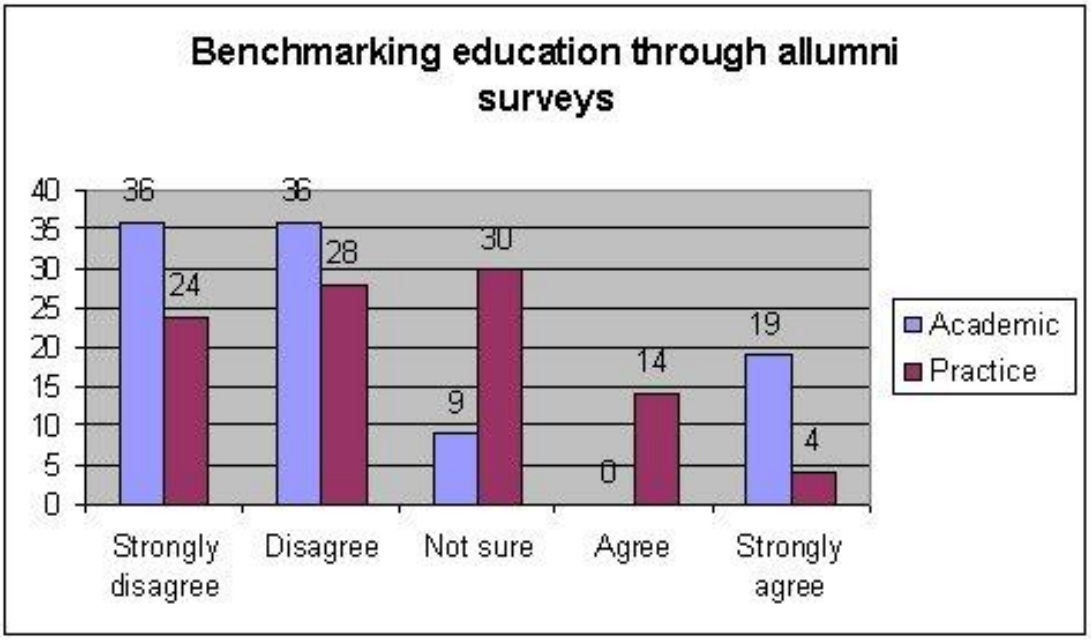
4.4 Descriptive statistics Academics

This questionnaire required information from identified management accounting academics at tertiary institutions about their perceptions of management accounting education in terms of curriculum mode and delivery. As we are measuring performance in regards to changing business environment and management accounting practices, the BSC is an effective tool for this purpose (Chang and Chow, 1999). The Chang and Chow (1999) BSC (Appendix1) was adapted to measure the performance of an academic department at a university and for the development of the academic questionnaire. The academic questionnaire was subdivided into three different perspectives of the BSC as earlier explained, the financial perspective was omitted. The aspects relevant to these perspectives were tested through statement based on the aspects listed in Appendix 1. The results are discussed in the ensuing paragraphs.

4.4.1 Perceptions of academics: Customer perspective

This section focused on how customers (students and employers) view academic institutions. Based on the frequency of responses provided most academics appear to hold the opinion that neither business nor alumni evaluations are used to determine the quality of the university education they offer. Further investigation into practitioner's views would indicate a similar finding in the responses from practitioners. Most practitioners reported that universities do not approach them to determine the quality of their management accounting education. The figure 5 below illustrates the benchmarking of education through alumni survey.

Figure 5: Benchmarking through alumni surveys

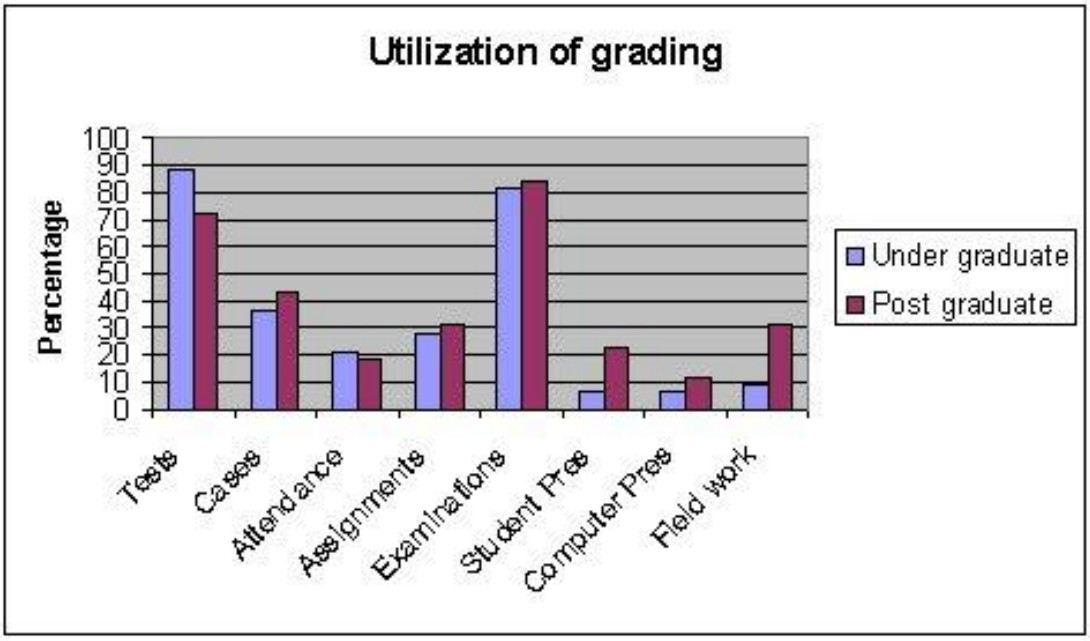


4.4.2 Perceptions of academics: Internal business perspective

The majority of academics agree with the statement that written examinations form the major part of their assessment of students. Neither oral, computer presentations nor practical investigations are widely used in student assessment. This could indicate that students are not adequately prepared for the challenges of a changing business world. Despite the fact that most educators believe that skills development is as important as theoretical knowledge, the greater emphasis in academic assessment remains on developing knowledge.

The grading of both undergraduate and postgraduate students was further investigated and the results are illustrated in Figure 6.

Figure 6: Grading of undergraduate and postgraduate students

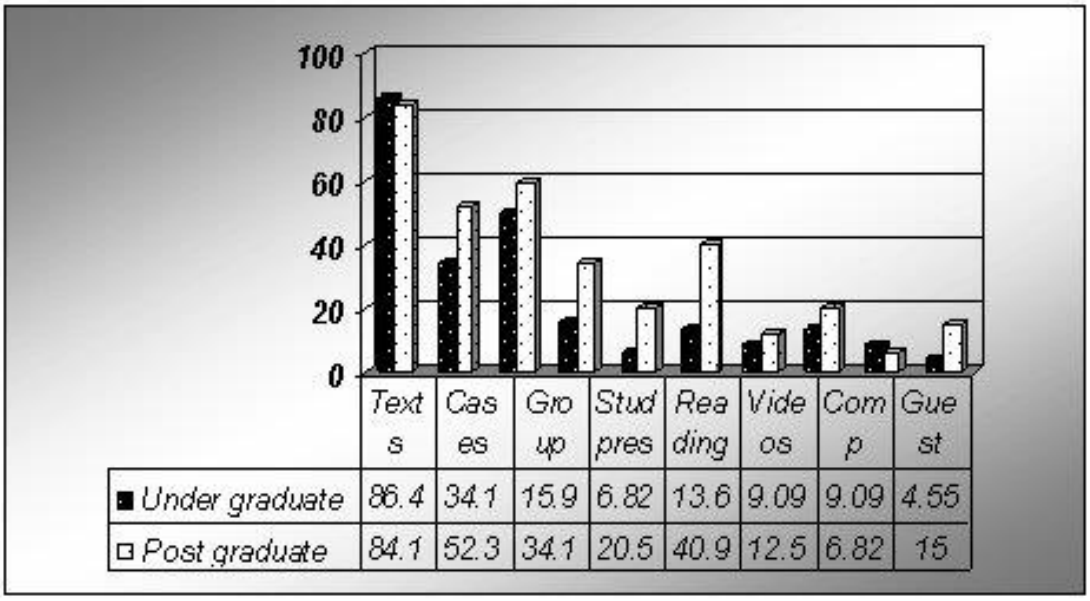


Tests and examinations remain the most frequent method of assessment of both undergraduate and postgraduate students. It was stated that neither student presentations (7%) nor computer presentations (7%) were commonly used for the grading of undergraduate students. Student presentations (23%) and computer presentations (12%) scored slightly higher for postgraduate students, but were still seldom used for assessment purposes. This finding supports the perceptions of business leaders and of practitioners that students are not adequately prepared to make oral or computer presentations.

4.4.3 Perceptions of academics: Learning and growth perspective

The third important perspective in assessing performance is the learning and growth perspective. This perspective focuses on how academics can continue to improve and create value. Analysis of the frequencies of the results indicate that most academics are still teaching the same material they taught in the past, and few faculty members have been involved in teaching workshops during the past two years. It is a matter of concern that few academics are teaching either undergraduate or postgraduate students how to utilise the software that is common to the business environment. New developments in information technology have therefore not been made part of current management accounting education. The learning and growth perspective was further explored by investigating commonly used teaching and study aids and are illustrated in Figure 7.

Figure 7: Use of teaching aids



Textbooks are still the favoured teaching aid in undergraduate (86%) and postgraduate (84%) management accounting courses. The teaching aid used least (5%) was guest speakers, closely followed by student presentations (7%), videos (9%), and computer assignments (9%). Even the internet is rarely used (14%). It therefore appears as if neither information technology nor communication skills have been adequately introduced into management accounting programmes.

Figure 7 indicates that management accounting textbooks are most frequently used as study aids. Surprisingly non-management accounting textbooks are not used at all and software applications are sometimes used as teaching aids. There was no indication of a particular management accounting textbook being favoured by tertiary institutions in South Africa.

4.5 Inferential Statistics

This section deals with testing the hypotheses formulated as indicated in Figure1.

4.5.1. Hypothesis 1: Customer perspective

The perceptions of the two samples of the two goals of having quality instruction and effective student placement were taken into account.

Hypothesis 1a: Perceptions of academics

The perceptions of academics of quality instruction and effective student placement were solicited. In view of the small sample size, the non-parametric Kolmogorov-Smirnov test was performed. This meant that the mean result had to be compared with 0 (for these tests 0 would equal 3) and academic responses were expected to disagree with the statements provided in the questionnaire. (be lower than the midpoint 3) for H_1 to be accepted. The mean results are presented in Table 3.

Table 3: Mean result on customer perspective: Academics

Objective	Significance	Mean
Quality instruction	0.615	2.2500
Effective student placement	0.787	4.0455
Highly valued programme	0.958	2.9697
Expectation: $H_O: \mu_1 = 3$ and $H_1: \mu_1 < 3$		

While quality instructions and highly valued programme were below the midpoint 3, the results were not significant and as effective student placement were not below the midpoint 3 it meant that overall none of the results proved significant. The research therefore failed to reject the null hypothesis. This provides preliminary proof that academics view the customer perspective as inadequate. As the sample was small, further tests could be undertaken in this regard.

Hypothesis 1b: Perceptions of practitioners

The perceptions of practitioners of quality instruction, effective student placement and highly valued programmes were solicited. The t-test was used and the results are presented in Table 4.

Table 4: Mean result on customer perspective: Practitioners

Objective	Significance	Mean
Quality instruction	0.000	3.8745
Effective student placement	0.000	3.3689
Expectation: $H_O: \mu_2 = 3$ and $H_1: \mu_2 > 3$		

The manner in which the statements in the practitioners' questionnaires worded for H_1 to be accepted they were expected to disagree with the statements on quality instruction. The mean result (3.8754) was significantly higher than the midpoint 3, which means that the null hypothesis could be rejected. This means that practitioners did not perceive quality instruction to be adequate.

The result on effective student placement was significantly higher than the midpoint 3, indicating that the null hypothesis could be rejected. Practitioners therefore did not agree that student placement was effective.

5.5.2 Hypothesis 2: Internal business perspective

The perceptions of the two samples of the different goals identified for this perspective were taken into account.

Hypothesis 2a: Perceptions of academics

The perceptions of academics of attaining the goals of quality assurance, a unique curriculum, cost efficiency and optimal class size were solicited. In view of the small sample size, the non-parametric Kolmogorov-Smirnov test was performed. The mean results are presented in Table 5.

Table 5: Mean result on internal business perspective: Academics

Objective	Significance	Mean
Quality assurance	0.814	3.7500
Expectation: $H_O: \mu_1 = 3$ and $H_1: \mu_1 < 3$		
Unique curriculum	0.838	2.3753
Expectation: $H_O: \mu_1 = 3$ and $H_1: \mu_1 > 3$		

None of the results proved significant. The research therefore failed to reject the null hypothesis. This provides preliminary proof that academics consider the internal business perspective to be inadequate. Due to the small sample size, further tests could be undertaken in this area.

Hypothesis 2b: Perceptions of practitioners

The perceptions of practitioners of quality assurance and curriculum uniqueness were solicited. The t-test was used and the results are presented in Table 6.

Table 6: Mean result on internal business perspective: Practitioners

Objective	Significance	Mean
Quality assurance	0.011	2.7379
Expectation: $H_O: \mu_2 = 3$ and $H_1: \mu_2 < 3$		
Unique curriculum	0.000	1.4757
Expectation: $H_O: \mu_2 = 3$ and $H_1: \mu_2 < 3$		

The practitioners were expected to disagree with the statement on quality assurance. The mean result of 2.7379 was significantly lower than the midpoint 3, which means that the null hypothesis could not be rejected. This means that practitioners consider quality assurance to be adequate.

The practitioners were expected to disagree with the statements on a unique curriculum. Although the result (1.4757) was significant, it was considerably lower than the midpoint 3, which means that the research failed to reject the null hypothesis. Practitioners therefore did not perceive curriculum uniqueness to be inadequate.

4.5.3 Hypothesis 3: Learning and growth perspective

The perceptions of the two samples relating to the different goals identified for the learning and growth perspective were taken into account.

Hypothesis 3a: Perceptions of academics

The perceptions of academics of attaining the goals of curriculum innovation, teaching innovation and professional growth of faculty members were solicited. In view of the small sample size, the non-parametric Kolmogorov-Smirnov test was performed. The mean results are presented in Table 7.

Table 7: Mean result of learning and growth perspective: Academics

Goal	Significance	Mean
Curriculum innovation	0.897	2.1100
Professional growth of faculty	0.962	2.3636
Expectation: $H_O: \mu_1 = 3$ and $H_1: \mu_1 > 3$		

None of the results proved to be significant. The research therefore failed to reject the null hypothesis in respect of the identified goals of the learning and growth perspective. This provides preliminary proof that academics consider the learning and growth perspective to be adequate. Due to the small sample size, further tests could be undertaken in this area

Hypothesis 3b: Perceptions of practitioners

The perceptions of practitioners of curriculum innovation, teaching innovation and the professional growth of faculty members were solicited. The t-test was used, and the results are presented in Table 8.

Table 8: Mean result of learning and growth perspective: Practitioners

Goal	Significance	Mean
Curriculum innovation	0.000	2.445
Faculty professional growth	0.951	3.0049
Expectation: $H_O: \mu_2 = 3$ and $H_1: \mu_2 > 3$		

The practitioners were expected to disagree with the statements on curriculum innovation. The result was significant but not higher than the midpoint 3, which means that the null hypothesis could not be rejected. Practitioners therefore perceive curriculum innovation to be adequate.

The results on teaching innovation and the professional growth of faculty members were not significant as the mean values were close to the midpoint 3. This means that the practitioners were neutral about these aspects (considered them neither adequate nor inadequate).

4.5.4 Hypothesis 4: Gap between perceptions of practitioners and academics

Hypothesis 4 was tested as a function of hypotheses 1a, 1b, 2a, 2b, 3a and 3b. The objective was to determine whether a gap existed between the perceptions of practitioners and those of academics regarding the skills management accountants needed to function well in the changing business environment. The BSC was used for analysis purposes. Due to the sample size, it was decided to interpret both the non-parametric and the parametric results in respect of this proposition.

Table 9: Non-parametric results for Proposition 4

Perspective	Group	N	Significance	Mean
Customer	Academics	11	0.042	3.0884
	Practitioners	103		3.4196
Internal business	Academics	11	0.000	3.2810
	Practitioners	103		2.1068
Learning and growth	Academics	11	0.270	2.6662
	Practitioners	104		2.8616

The non-parametric Mann-Whitney U-test was performed. The results in table 9 indicate significant differences between the perceptions of academics and practitioners where customer and internal business perspectives are concerned. The results on the learning and growth perspective were not significant. This result was confirmed by the group mean statistics.

The t-test was used for parametric statistics. Levene's test indicated that equal variances could be assumed (Table 10).

Table 10: Parametric results for Proposition 4

Perspective	Group	N	Significance	Mean
Customer	Academics	11	0.043	3.0884
	Practitioners	103		3.4196
Internal business	Academics	11	0.000	3.2810
	Practitioners	103		2.1068
Learning and growth	Academics	11	0.330	2.6662
	Practitioners	104		2.8616

The results in Table 10 confirmed the findings of the non-parametric tests. These results provide proof that a gap exists between the perceptions of practitioners and academics regarding the customer and internal business perspectives but not as far as the learning and growth perspective is concerned.

The results were further analysed to determine where individual item results were most significant. Using the t-test, the results showed major differences with respect to alumni and employees playing a role in assessing the quality of education, and the suitability of management accounting education for the changed business world. Differences were also found concerning the adequacy of academics' practical knowledge, the importance of skills and abilities in practice, whether academics were leading practice with respect to innovation, and the extent to which management accounting has changed during the past five years.

5. Discussion

This study identifies and gains insights into the gap that persist between management accounting education and contemporary management accounting practices. The gap is identified through practitioners and academics perception of BSC indicators namely customer, internal business and learning and growth perspective.

It was found that a gap does exist between the perceptions of academics and practitioners about the skills management accountants need to meet the challenges of working in a changing business environment. This gap is significant in terms of the customer and internal business perspectives but is not so significant in terms of the learning and growth perspective. Analysis of the customer perspective revealed that academics perceived performance on the issues that were addressed as inadequate. Practitioners considered performance in terms of quality instruction and effective student placement to be inadequate but were neutral about management accounting being a highly valued programme. It appeared from the frequency of responses that neither academics nor practitioners believed that either alumni or employees are approached to determine what stakeholders thought of management accounting education at universities.

Analysis of the internal business perspective revealed that academics considered performance inadequate. Judging from new management accountant recruits, practitioners did not consider performance in terms of quality assurance and unique curriculum to be inadequate. The frequency of responses revealed that most academics believed that

undergraduate class sizes were not reasonable and that the undergraduate student/staff ratio influenced the delivery of a quality education. The frequency of the responses from academics also indicated that written tests and examinations were still the major component of student grading and that neither oral nor computer presentations were widely used to assess students. This is a matter for concern as communication skills and information technology are driving forces in the business environment (Francis & Michington, 1999).

Analysis of the responses concerning the learning and growth perspective revealed that academics viewed performance as inadequate, that practitioners considered performance on curriculum innovation adequate but were neutral about innovation in teaching and the professional growth of faculty members. In terms of the descriptive statistics, most practitioners (97.2%) believed that skills and abilities were as important as knowledge, and that management accounting graduates were not adequately prepared to write business reports (53.4%) or make computer presentations by using the applicable software (50.5%). The descriptive statistics concerning academics revealed that few classes (especially at undergraduate level) were presented by means of computer software that classes were not presented in an interactive manner, and that creativity and imagination in written assignments were seldom encouraged. Consistent with prior studies (Tan *et al.,* 2004; Botes, 2009), the gap in perceptions of the information technology such as Enterprise Resource Planning is an area in which academics have been criticised for not teaching students how technology is impacting on business. This finding is of concern as the literature revealed these to be important skills in the business environment. Analysis of the use of teaching and study aids on management accounting courses revealed that the accusations of business leaders reported earlier are true and that teaching practice has not changed. Only 36.8% of the practitioners believed that academics were fully aware of the problems management accountants faced in practice. Neither practitioners nor academics were of the opinion that academia was providing leadership in terms of management accounting innovation.

6. Conclusions

The biographical data show that most management accountants work in the manufacturing industry. Analysis of the descriptive statistics revealed that two major drivers of change in the business environment, namely information technology and communication skills have not been successfully incorporated into management accounting education.

It was established from the inferential statistics that differences exist between the perceptions of academics and practitioners regarding performance in terms of the balanced scorecard's customer and internal business perspectives. There were not much variation in the perceptions of academics and practitioners in relation to learning and growth perspective. Data were collected from large as well as small samples. Both parametric and non-parametric tests were used to ensure that the statistical inferences were sound. The findings support the view that more work is needed in the area of customer perspective and internal business perspective of BSC in order to bridge the gap between perceptions of management accounting academics and practitioners. The study contributes to the dearth of literature on BSC in management accounting education. It opens up areas for policy makers that more attention is needed in the customer and internal business perspective of BSC in order to bridge the gap between perceptions of management accountants' practices and academics. A wider repertoire of skills and an intensive insight of the fundamental of the discipline are required.

The practitioners believed that skills and abilities were as important as knowledge. The management accounting academics should include practitioners in the development of their courses and use a wider range of teaching and assessment techniques that specifically

develop students' skills such as writing business reports and making computer presentations using Excel.

The research extends the literature by showing that management accountants do not always possess the skills they need to face the challenges in today's business environment. It also reveals that academics and practitioners differ as to the skills management accountants require in practice. The study is limited to South Africa only. Future research can be undertaken internationally to examine if the findings of this research are supported or refuted elsewhere. There is a need for more research application on BSC practices within higher education.

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Appendix 1: The Balanced Scorecard for Academic Departments

Customer Perspective: *How do our customers see us?*	
Goals: **Effective student placement**	Possible measures • Percentage of students with job offers at graduation • Number of companies recruiting on campus
Quality instruction	• Alumni evaluations • Graduating student survey • Business evaluations • Professional exam pass rate
Highly valued programme	• External ranking or ratings in press • Student satisfaction survey • Percentage enrolment out of applications
Flexible scheduling	• Offering frequency of required courses • Student satisfaction survey
Internal Business Perspective *At what must we excel?*	
Quality Assurance	• Distribution of grades awarded • Exit exam or student competency rate
Unique curriculum	• Number of faculty in the specialized area • Number of other schools offering the programme
Cost efficiency	• Faculty to student ratio • Educational expenses per student
Optimal class size	• Average size for majors • Average class size compared to other institutions
Innovation and Learning Perspective *Can we continue to improve and create value?*	
Curriculum innovation	• Number of curriculum revisions in last five years • Number of new courses offered in last five years
Teaching Innovation	• Number of teaching innovation projects • Number of courses incorporating new technology
Faculty Professional growth	• Number of faculty presentations at conferences • Number of faculty publications • Number of seminars attended by faculty.
Financial Perspective *How do we look to providers of financial resources?*	
Succeed	• Enrolment trend • Test scores
Survive	• Level of student enrolment • Funding per student
Prosper	• Annual allocation to department • Number of external grants

Source: Chang and Chow, 1999 p. 404 -405

Appendix 2: Statements* utilised from academic and practitioner questionnaire to assess gap.

ACADEMICS (μ_1)	**PRACTITIONERS (μ_2)**
Customer perspective: Quality Instruction	
B1.1. We use alumni evaluations to determine what students think of our management education.	B1.1. Universities approach alumni to determine what students think of their management education
B1.2. We use graduating student evaluations to determine what students think about our management accounting education.	B1.2. As a graduate, the university approached me to determine the quality of their management education
B1.3. We use business evaluations to determine what employers think about our management accounting education.	B1.3. As an employee, universities have approached me regarding the quality of their management education
Customer Perspective: Effective student placement	
B1. 11 A large number of organisations recruit accounting students on campus.	B1.7. My organisation recruits new management accountants on university campuses
B1.6 The majority of our undergraduate students find placement upon completion of their degree	B2.5 New graduate employees are immediately suited to the world of business
Internal Process Perspective: Quality Assurance	
B2.10 Academics' practical knowledge of management accounting subject matter is adequate	B 2.3 Academics practical knowledge of management accounting is adequate
Internal Process Perspective: Unique Curriculum	
B2.14 Developing skills and abilities are as important as developing knowledge	Skills and abilities are as important to business as theoretical knowledge
Learning and growth perspective : Curriculum innovation	
B3.12 We still teach the same core body of knowledge in management accounting as we did three years ago.	B3.6 In practice management accounting has undergone radical change over the past 5 years
Learning and growth perspective : Professional growth	
B3.1.7 Academia is leading practice in innovation in management accounting	B3. 4 Academic are leading practice in new innovations in management accounting

*Numbering of questions are nor sequential as the information for this paper was selected from a wider investigation