CHAPTER 7

PRESENTATION AND ANALYSIS OF THE RESEARCH FINDINGS

7.1 INTRODUCTION

Chapter 6 detailed the methodology that was used to determine whether educators are teaching what management accountants need in practice. The purpose of this chapter is to report on the data collected via the structured questionnaires. The data have been analysed and interpreted, and the report is based on the balanced scorecard format to enable testing of the research objective (chapter 5) and the null hypothesis.

Each question is presented together with the responses of the two target groups. The analysis is presented in rounded figures to simplify the tables (Saenger 1991:280).

7.2 CONFIDENCE IN THE SURVEY SAMPLE

Owing to practical difficulties with responses from large survey groups, a meaningful survey sample size had to be determined. An appropriate sample size was calculated.

7.2.1 Representative sample of practising management accountants

A representative sample size with known confidence and risk levels was selected, based on the work of Yamane (1967:258). An appropriate response rate was determined (also refer to paragraph 6.2). The formula used by Yamane (1967:258) is illustrated in diagram 7.1.

Diagram 7.1: Formula for population proportion

$$n_o = \frac{z^2 p(1- p)N}{z^2 p(1- p) + N e^2}$$

Where

n_o = sample size

z = confidence interval corresponding to a level of confidence

p = population proportion

N = population size

e = precision or error limit

Source: Yamane (1967:258)

The Yamane formula assumes a normal distribution. The CIMA members are assumed to be normally distributed in terms of the parameters for interpretation of their perceptions of the skills required and applied in practice. The Yamane formula could therefore be considered suitable for determining an appropriate sample size.

There were 592 CIMA practicing members targeted in South Africa (N = 592). A 95% confidence level is deemed acceptable and thus statistically z = 2. The proportion of responses that would be relevant to the survey is p. If p is 0,5 (see diagram 7.1), a new formula is derived as illustrated in diagram 7.2.

Diagram 7.2: Mathematically derived Yamane formula

$$n = \frac{N}{1 + Ne^2}$$

Where:

n = required responses

e^2 = error limit

N = sample size

Source: Yamane (1967:258)

If another value were to be used for p, the denominator in the formula in diagram 7.1 would increase and a smaller response size would then be required. p = 0,5 therefore offers the biggest possible response rate and confidence and risk levels can be maintained.

Placing information in the formula in diagram 7.2 at a 95% confidence level and an error limit of 10% results in:

$$n = \frac{592}{1 + 592\ (0{,}10)^2}$$

$$= 86 \text{ responses}$$

Eighty-six responses would therefore be the lowest acceptable number of responses to maintain a 95% confidence level and a 10% error level.

However, in view of the responses that were received from practitioners in this survey, the Yamane formula in diagram 7.1 was mathematically adapted to determine confidence and error limits as follows:

Diagram 7.3: Potential error limit

$$e^2 = \frac{z^2\, p\,(1- p)}{n_o} - \frac{z^2\, p\,(1- p)}{N}$$

Where:

e = precision or error limit

n_o = responses received

N = population surveyed

p = responses expressed as a percentage of population

$$e^2 = \frac{2^2\,(0{,}18)\,(1 - 0{,}18)}{105} - \frac{2^2\,(0{,}18)\,(1-0{,}82)}{592}$$

$$= \frac{0{,}5904}{105} - \frac{0{,}5904}{592}$$

$$= 0{,}005623 - 0{,}000997$$

$$= 0{,}004623$$

$$e = 0{,}068$$

Applied Yamane formula (1967:258)

Thus, given a response rate of 18 % (derived from 105 responses out of 592) the management accounting practice survey therefore has a 95% confidence level and potential error limit of 0,068 or 7%. According to Hussey and Hussey (1997:226) no survey can ever be deemed to be free from error or provide 100 % surety and error limits of less than 10% and confidence levels of higher than 90% can be regarded as acceptable.

7.3 RELIABILITY OF THE QUESTIONNAIRE

The practice questionnaire was tested for reliability of its content: the *extent to which a measure appears to measure the characteristic it is supposed to measure* (Diamantopoulos & Schlegelmilch 2000:34). The sample size of academics was small and it therefore served no purpose to repeat the reliability test for this 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 0,67 for the overall value of management accounting education and that was within acceptable limits. Item analysis showed acceptable totals for all items except B1.8 (0,0208543). Removing this item would increase the alpha coefficient score to 0,71.

The alpha coefficient for the perceptions of practitioners of tertiary management accounting education was within acceptable limits at 0,64, indicating an acceptable correlation of items. Item analysis again indicated acceptable totals for all items except B2.6 (0,044979). Removing this item would increase the alpha coefficient to 0,72.

The alpha coefficient for the use of advanced management accounting systems in business was calculated as 0,86, proving reliable correlation within the group. The extent of the knowledge required for using advanced management accounting systems showed an even higher alpha coefficient, namely 0,94, indicating item reliability.

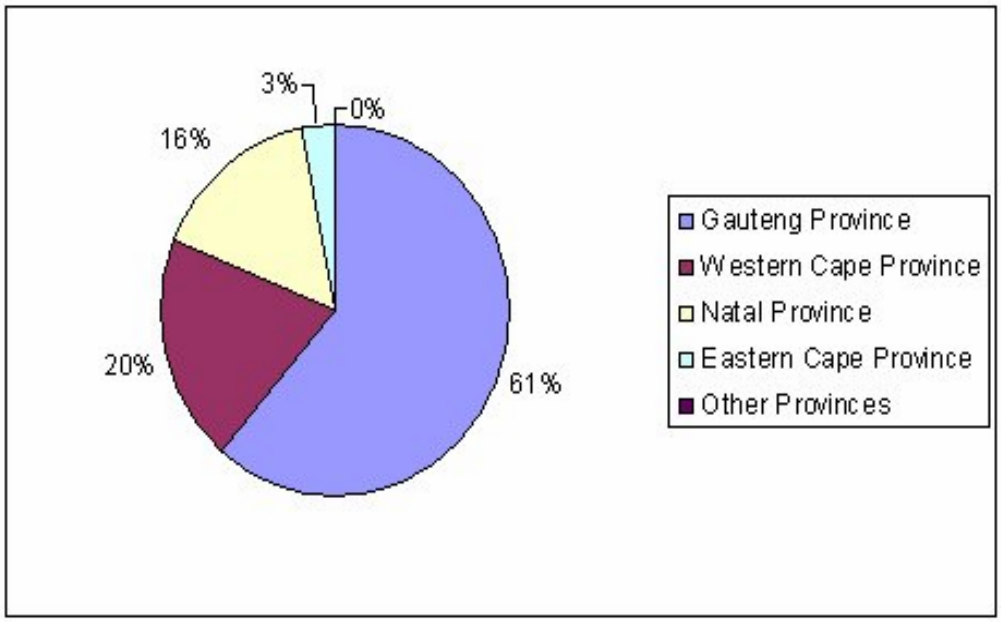
7.4 BIOGRAPHIC PROFILES OF RESPONDENTS

Each questionnaire required background information from the respondents. This information was cross-tabulated to provide additional information on the two groups and to expand the analysis of their perceptions of whether management accountants possess the skills they need in a changed business environment.

7.4.1 Biographic information: questionnaire for practitioners

Two population profiles were based on data obtained from the CIMA database (Louis 2005), namely the geographical spread of practising members in South Africa and the gender distribution of South African practising management accountants.

Diagram 7.4: Geographical spread of CIMA (SA) members

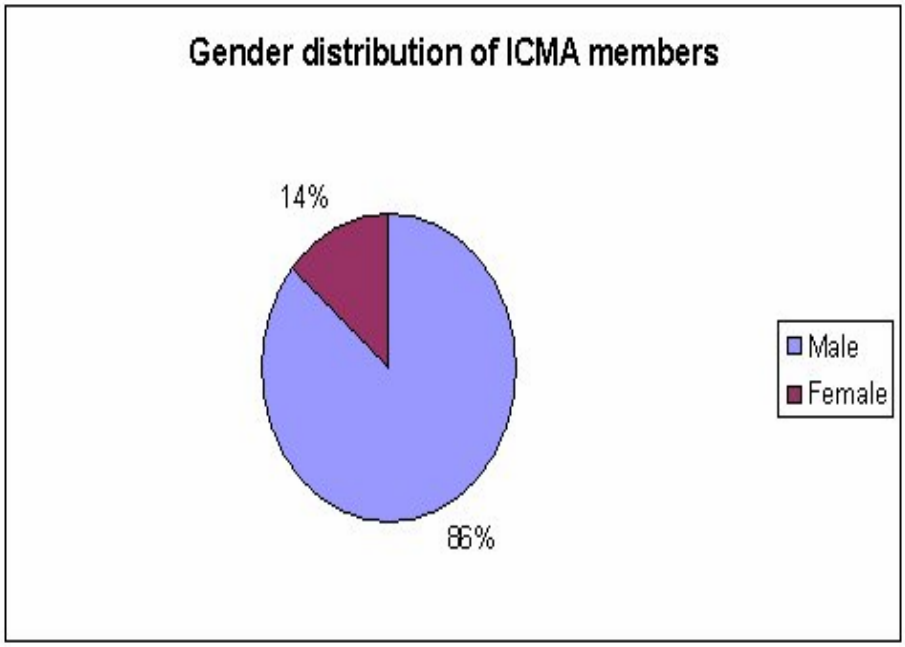


Source: Own diagram compiled from CIMA information

Most (61%) of CIMA's practising members are located in Gauteng Province. The smallest number (3%) reside in the Eastern Cape. The Western Cape province and Kwazulu Natal province respectively represent 20% and 16 % of the members.

Diagram 7.5 contains information on the gender distribution of CIMA's practicing members

Diagram 7.5: Gender distribution

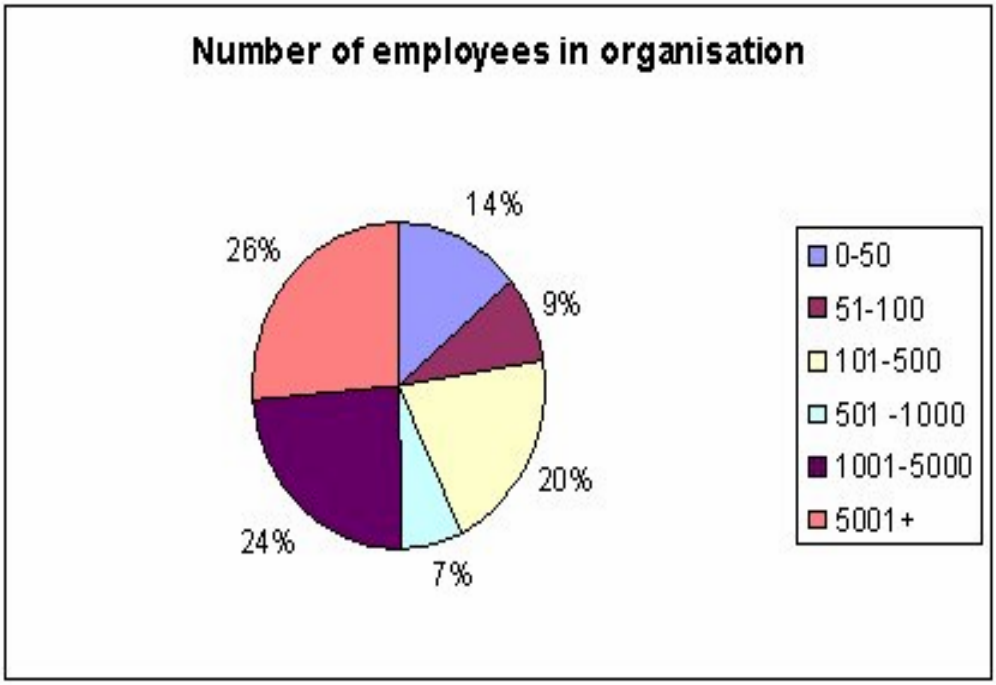


Source: Own diagram compiled from CIMA information

As only 14% of the practising CIMA members were female, it was decided not to conduct a one-way analysis of variances (ANOVA).

The biographic information in the questionnaire addressed to practitioners dealt with the size of the organisation in order to ensure that the response was representative of all organisations.

Diagram 7.6: Number of employees

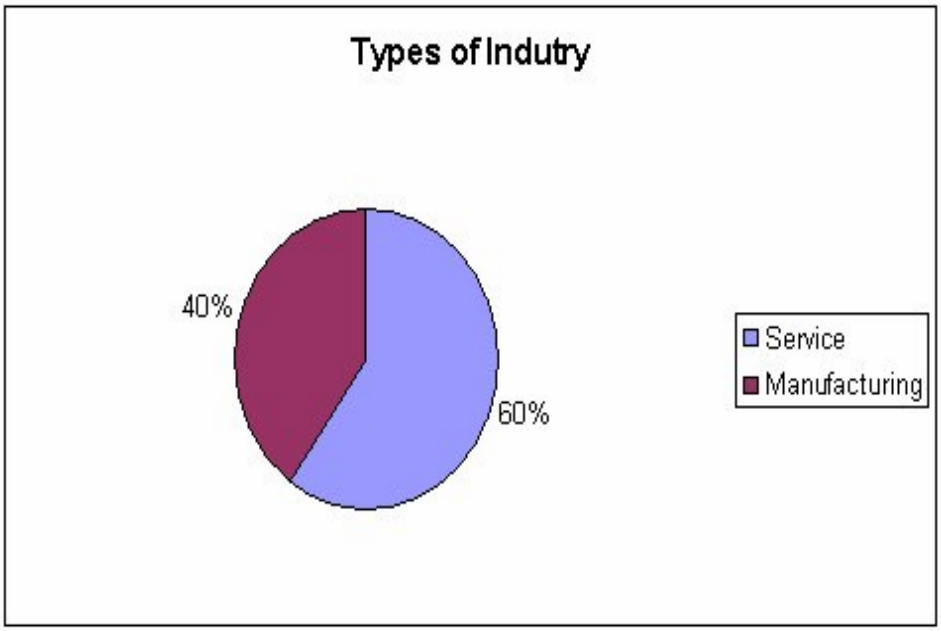


Source: Own diagram compiled from statistical analysis

Diagram 7.6 indicated that most management accountants were employed by the bigger corporations in South Africa (representing 1 000+ employees).

The particular industry of the organisation was also important. The important role of the service industry in the new business environment was emphasised (see paragraphs 3.3.3 & 4.3.3). Representation in the service and the manufacturing industries is illustrated in diagram 7.7.

Diagram 7.7: Different types of industry



Source: Own diagram compiled from statistical analysis

The finding illustrated in the diagram 7.7 is extremely important as it indicates the impact of knowledge management on management accountants (also see paragraph 4.4.1). The above information will be used to perform t-tests (Diamantopoulus & Schlegelmilch 2000:142) for significant differences between management accounting practitioners in the service and manufacturing industries.

The designated position of the management accountant in business is illustrated in diagram 7.8.