

CHAPTER 4

QUANTITATIVE RESEARCH METHOD

| | |
|--|-------|
| INDEX | 4-118 |
| SYNOPSIS | 4-119 |
| 4.1 INTRODUCTION | 4-120 |
| 4.2 SURVEY DESIGN | 4-120 |
| 4.2.1 Questionnaire design | 4-121 |
| 4.2.2 The pilot study | 4-125 |
| 4.3 ETHICAL CONSIDERATION | 4-125 |
| 4.4 DEMARCATION OF THE STUDY | 4-126 |
| 4.5 POPULATION AND SAMPLING | 4-127 |
| 4.5.1 Definition of the population | 4-127 |
| 4.5.2 Definition of the sample | 4-130 |
| 4.5.3 Size of the sample and the degree of accuracy | 4-131 |
| 4.5.4 Sampling technique | 4-133 |
| 4.6 DATA COLLECTION | 4-134 |
| 4.7 THE PROCEDURE FOR ANALYSIS | 4-136 |
| 4.7.1 Data processing | 4-136 |
| 4.7.2 The inspection procedure | 4-136 |
| 4.7.3 The editing process | 4-138 |
| 4.7.4 The coding procedure | 4-138 |
| 4.7.5 The transferring of data | 4-138 |
| 4.7.6 Treatment of non-respondents | 4-139 |
| 4.7.7 An analysis of the variables required to establish relationships | 4-140 |
| 4.8 CONCLUSION | 4-142 |

CHAPTER 4

QUANTITATIVE RESEARCH METHOD

SYNOPSIS

Research is valid if it measures what it sets out to measure (Parasuraman, 2004 : 123). A properly planned research project, designed according to empirical requirements, was therefore necessary to achieve the empirical research objectives set in Section 1.6 and to ensure that the information obtained would be relevant and reliable.

In this chapter the demarcated research target, being South African banks licensed to operate in South Africa is described. Managing directors of operating banks as well as divisional directors, board members, directors, general managers, regional directors, deputy general managers, risk specialists, senior managers, area managers, and branch managers in the South African banking industry constituted the elements of the target population.

The questionnaire design, format, accuracy and pre-testing are considered. The coding of questions, the confidentiality of the questionnaire, data collection procedures, data processing and the methods used are furthermore outlined. Matters regarding the response rate receive attention and the problem of non-response are addressed. The research methodology used in this research is explained in detail. Satisfactory response rates to all three sections of the research design made it possible to continue with the analysis and interpretation of results in Chapter 5.

The value of this Chapter lies in obtaining an understanding of the research methodology and processes used to obtain the necessary data which forms the basis of this study.

CHAPTER 4

QUANTITATIVE RESEARCH METHOD

4.1 INTRODUCTION

Research is valid if it measures what it sets out to measure (Dillon, Madden and Firtle, 2000 : 384). A properly planned research project, designed according to empirical requirements, should ensure that the purpose and objectives of a study are achieved (Luck and Rubin, 2003 : 52).

The research design of this study had to be planned to ensure that the information obtained would be relevant and reliable. In this chapter the research design of the empirical study will be discussed in order to illustrate how answers to the research problems of this study were obtained. The sample design, which specifies the sample frame, sample size and the system for selecting and contacting individual respondents from the population, will be presented. The application of holistic risk management (HRM) in the banking environment is the object of the study and therefore the concept holistic risk management will be used when referring to risk.

The questionnaire design, data collection procedure, data processing and the methods used to achieve a complete database for statistical analysis will also be outlined. Matters regarding the response rate will receive attention. In order to clarify the research findings, analysis and interpretation is done in Chapter 5. In conclusion, the problem of non-response will be discussed.

4.2 SURVEY DESIGN

The survey is intended to obtain information from the sample of respondents drawn from the population (Alreck and Settle, 2000 : 6). As soon as the researcher has decided what information must be collected from the sample of

respondents, it must be collected as accurately and unambiguously as possible at a reasonable cost and in a given time (Nel 2000 : 142). The correct decision depends on a thorough knowledge of the various survey methods and the inherent strengths and weaknesses of each (Nel 2000 : 142).

Considering the size of the sample and the resulting costs and time factor, the mail survey was the best suited for this study. Kanuk and Berenson (2001 : 440-453) emphasises that the mail survey, besides being relatively cheap and quick, are also free from interview bias, because they enable respondents to check information and permit thoughtful reply.

Mail surveys are not without disadvantages. Low response rates are the most serious problem in mail surveys (Dillon, Madden and Firtle, 2000 : 284). However, attempts were made to ensure an adequate response rate. These methods will be discussed in the next paragraphs. Mail surveys involve sending out a structured questionnaire to the sample of respondents. The questionnaire design will be discussed in the following paragraph.

4.2.1 Questionnaire design

Parasuraman (2004 : 342) indicates that there are no rules that can be followed to ensure a flawless questionnaire. There are two general aspects to every questionnaire (Sommer and Sommer, 2003 : 107) its content and its format.

- The content of the questionnaire

It was the intention of this study to meet the following objectives:

This research study essentially centred on the gaining of insights into the management of risk in the banking industry in general and holistic management in particular. To achieve this purpose the following objectives were set:

- Objective 1: To attain an understanding of the existing strategies used by South African banks to manage risk and to ascertain whether these strategies are relevant in managing risk efficiently.
- Objective 2: To explore the concept of holistic risk management as a means of efficiently managing risk in the banking industry.
- Objective 3: To gain an understanding of the critical success factors for the implementation of holistic risk management in the banking industry.
- Objective 4: To suggest a framework for the implementation of holistic risk management in the banking industry.

The questionnaire was divided into different sections, where each section contained aspects of one particular topic (for example section A of the questionnaire deal with the organisational culture).

Section A of the questionnaire (see Annexure A for a copy of the questionnaire) established the culture of the bank in order to determine whether risk management can be implemented by South African banks. Section B of the questionnaire established the risk management used in the bank. Section C of the questionnaire consisted of classification data, which facilitated comparisons between the first two sections.

- The format of the questionnaire

In selecting the format of the questionnaire, two aspects were considered. Firstly, that a mail survey would be used and secondly, the management and analysis of the information obtained.

There are two basic formats for survey questions: unstructured and structured (Alreck and Settle, 2000 : 119). In the questionnaire used in this study only

structured questions were used, because they have relevant advantages such as comparability of data, accuracy, easier response task and easily understood dimensions of the answers.

A structured questionnaire consists mainly of closed-ended questions. It was decided to use a five-point Likert scale as a measurement technique in sections A and B of the questionnaire. The Likert scale is a technique where a large number of items that are statements of beliefs or intentions are generated. Each item is judged according to whether it reflects a favourable or unfavourable attitude towards the object in question. Respondents are then asked to rate their attitude on each scale item in terms of a five-point category-labelled scale (Dillon, Madden and Firtle, 2000: 363). The statements included in section A and B of the questionnaire contained both positive and negative statements (for a copy of the questionnaire see annexure A). The negative statement of the completed usable questionnaires were recoded to present a positive statement. Section C of the questionnaire consisted of closed-ended questions establishing general information about the bank of the respondents. There was however one open-ended question establishing the designation of the respondent.

Nel, Radel and Loubser (2000 : 246) emphasised that the appearance and layout of the questionnaire are of particular importance in the mail surveys. The questionnaire should not create the impression of being overly long, but its layout should allow sufficient space to record the information required.

A summary of the content and format of the questionnaire used in this survey is given in EXHIBIT 4:1 below:

EXHIBIT: 4 : 1 THE CONTENT AND FORMAT OF THE QUESTIONNAIRE USED IN THE SURVEY

| SECTION A: ORGANISATIONAL CULTURE | |
|--|---------------------|
| CONCEPT EMPHASISED | NUMBER OF QUESTIONS |
| Norms | 13 |
| Nature of work | 6 |
| External relations | 4 |
| TOTAL | 23 |
| SECTION B: RISK MANAGEMENT | |
| CONCEPT EMPHASISED | NUMBER OF QUESTIONS |
| Analysis | 7 |
| Strategy | 4 |
| Planning | 4 |
| Implementation | 7 |
| Review of results | 4 |
| Evaluation | 3 |
| TOTAL | 29 |
| SECTION C: GENERAL | |
| CONCEPTS EMPHASISED | NUMBER OF QUESTIONS |
| Type of bank | 1 |
| Number of departments initiating risk management | 1 |
| People employed | 1 |
| Annual turnover | 1 |
| Respondent's designation | 1 |

Source: Own design questionnaire

The real test of a questionnaire is how it performs under actual conditions of data analysis (Churchill, 2000 : 296). For this reason the questionnaire pre-test is vital. In this study, after the questionnaire was designed, it was personally delivered to two bank directors for evaluation. Questionnaires were also given to colleagues familiar with research surveys. Personal interviews with these people proved to be valuable. The questionnaire was further refined.

It was also necessary to change the covering letter to accompany the questionnaire. Advice from the persons above especially the bank directors, who are continuously exposed to mail surveys, was that the length of the questionnaire was reasonable, but that the content of the covering letter should

be reduced. A shorter covering letter was drafted (see Annexure B for a copy of the covering letter). It was decided to conduct a second pre-test in the form of a pilot study.

4.2.2 The pilot study

The second pre-test was conducted in the form of the proposed survey design, with the exception that questionnaires were delivered and collected personally. Twelve banks were selected in Pretoria. These bank representatives were chosen in such a manner as to be representative of the actual bank representatives to be surveyed. A branch of a bank was taken as a representative of the bank for the purpose of this study. Only unlisted bank representatives were included in the pilot study, as all listed bank representatives would be surveyed during the main survey. Namely, Post Bank, Teba Bank, Land Bank, Development Bank of Southern Africa (DBSA) just to name a few. There are 34 locally controlled and 8 foreign-controlled banks, 15 local branches or representatives of foreign banks, 61 representative offices of foreign banks, and 2 registered mutual banks (South African Reserve Bank 2002 : 45-58). These numbers are not static. They change from time to time as banking landscape changes.

After the results of the pilot study were processed and analysed, the questionnaire was further refined and ready to be used in the actual collection of data.

4.3 ETHICAL CONSIDERATION

The researcher struggled to get the questionnaires back, despite the fact that the questionnaire itself was written (STRICKLY CONFIDENTIAL) in bold. Throughout the process of data collection the problem of persuading participants to co-operate with the researcher is ever present. Lack of co-operation leads to non-response, to incompletely filled-out questionnaires, and to unreliable results

(Bless and Higson-Smith, 1995 : 102). Elements of anonymity and confidentiality were created in the questionnaire.

4.4 DEMARCATION OF THE STUDY

The main players in the South African banking industry are 34 locally controlled banks, 8 foreign controlled banks, 15 local branches or representatives of foreign banks, 61 representative offices of foreign banks and 2 mutual banks. (South African Reserve Bank 2005 : 119). Representative of banks manage risk at branch level. Therefore, for the purpose of the quantitative component of the study as described in Chapter 4, head offices as well as branches of banks as representatives were included in the sample frame for the quantitative component of the research (refer Annexure C for list of banks). Managing directors or chief executive officers of banks as well as divisional directors, board members, directors, general managers, regional directors, deputy general managers, risk specialists, senior managers, area managers, and branch managers of the banks listed in Annexure C constituted the elements of the target population. These are the people who manage risk at coal face value in the South African banking industry and were included as the 1360 respondents forming part of the stratified sample frame as described in Section 4.5.4.

According to South African Reserve Bank (2005 : 119) the banking industry is dominated by four big commercial banks, namely ABSA, Standard Bank, Nedbank and First National Bank. These four big commercial banks command 75% collective market share in the banking industry and were therefore targeted as units of analysis for the qualitative research component of the study as described in Chapter 6.

4.5 POPULATION AND SAMPLING

4.5.1 Definition of the population

A sample does not have to be representative of general population, but it must be representative of the population of interest. The population of interest is called the target population (Dillon, 2000 : 211). A correct definition of the target population is essentially to address the problem statement.

Dillon, Madden and Firtle (2000 : 267) mention three points about defining target populations. Firstly, the target population must be consistent with the objectives of the study. It must contain the persons who possess the information sought by the survey. Secondly, any other qualities that respondents should have in order to be included in the sample must also be clearly specified. Finally, all decision rules for inclusion or exclusion of respondents from the survey must be clearly explained.

For the purpose of this study the target population is chosen from the South African banking industry. In South Africa there are two main types of banks, namely privately owned banks such as ABSA, Nedbank, First National Bank, Standard Bank, Teba Bank, African Bank, Investec to name just a few and public banks such as the South African Reserve Bank, Post Bank, Land Bank, and the Development Bank of Southern Africa (DBSA) (Du Toit, 2004 : 97). To make the sample as representative as possible, it was decided that both of these types of banks should be included in the target population. However, the South African banking industry is dominated by four big commercial banks, popularly known as the big four, namely ABSA, Nedbank, First National Bank and Standard Bank. These four big commercial banks run thousands of branches throughout the country.

A classification of banks in South Africa according to activities performed by these banks indicate the diverse nature of the banks. The categories included in

the database of banks held by a marketing research firm Credit Inform (2003 : 19) are:

- Agricultural banks
- Commercial banks
- Corporate banks
- Industrial banks
- International banks
- Micro banks
- Retail banks

The above-mentioned categories largely correspond with the Standard Industrial Classification of economic activities (Nel, Radel and Loubser, 2003 : 278). It would be impractical to include all the banks in South Africa in the target population due to the diverse nature of their activities. Choosing a proper sampling frame is thus necessary. For the purpose of this study it was decided to include all the banks from the following categories:



- Agricultural banks
- Development banks
- Industrial banks
- Retail banks
- Corporate banks
- International banks
- Micro banks

The reasons for this choice are described in the next paragraphs.

In analysing the economic activities of the various banks in South Africa, the above were found to be very active. During 2000 banks in these sectors were responsible for 10,80% of the gross domestic product of South Africa (South African Reserve Bank 2000 : 16-18). In a speech delivered by Mboweni (2002 : 3), it was emphasised that small banks were causing systematic risk in the banking industry and that they were not adding value to the industry. This

reinforces the choice of the selected categories to be included in the target population.

Both private and public banks were included in the sample frame of this study. A private bank can be listed on the Johannesburg Stock Exchange (JSE). Organisations listed on the Johannesburg Stock Exchange are grouped into categories, which indicate their field of activity. These categories are (Johannesburg Stock Exchange, 2003 : 53):

- Coal
- Diamonds
- Gold
- Metals and minerals
- Mining financials
- Mining
- Financial institutions
- Industrial
- Development capital
- Venture capital
- Preference shares
- Debentures



The target population thus consists of listed and unlisted banks in the financial services sector of South Africa. To simplify the sampling frame (target population) even further, all non-operating banks (banks acting as holding bank for other banks) were excluded from the population due to the nature of their activities. These holding companies do not manage risk; therefore it's inappropriate to include them in the target population.

4.5.2 Definition of the sample

Selecting a sample means selecting elements from a target population for the ultimate purpose of drawing general conclusions about the entire number of elements (Dillon, Madden and Firtle, 2000 : 267). The limitation of time and resources rarely permits the study of all elements of a target population (Churchill, 2000 : 392). In fact Parasuraman (2004 : 446) states that data obtained by sampling, which is only a portion of the whole universe, may be more accurate than that obtained from a complete census. The reason is that the accuracy of the data obtained does not only depend on the number of elements included, but also on other factors related to the process of collecting data (Parasuraman, 2004 : 447).

In attempting to draw a sample of n elements from a target population of N elements, the characteristics of the sample must not differ by more than acceptable limits, from the corresponding characteristics of the target population (Smit, 2000 : 53).



Since the sample frame consists of two groups where each of the two groups also has sub-groups, it was decided to use the following procedure in selecting a sample.

- Group 1: Unlisted bank

The sample frame indicated that there are very few banks in this group. However, this group can be sub-divided into six sub-groups. Each sub-group has similar attributes.

A stratified sampling procedure seems to be the best procedure to use in selection a sample for this group. Each of the sub-groups represents a strata or sub-population. The use of a stratified sample offers an opportunity for reducing

sampling error (Churchill, 2000 : 426). Before the sample units can be selected for observation, the size requirement of the research study has to be estimated.

- Group 2: Listed bank

The sample frame indicated that there are 26 banks in this group and it was decided to include all of these banks in the sample.

4.5.3 Size of the sample and the degree of accuracy

Although there are statistical formulae available to compute a specific sample size to yield a given level of confidence for a single variable, they are of little value even to experienced researchers (Alreck and Settle, 2000 : 93). The calculations require fairly accurate estimates of population variance, which is seldom known in advance. Additionally, most surveys include many variables and it is often not possible to calculate variances in advance for each variable. If such calculations were performed and the largest required sample size used, the sample size might very likely be larger than required for all but a few variables (Alreck and Settle, 2000 : 93).

Walizer and Wienir (2003 : 433) provide a reference table that can be used to determine sample sizes. This table is based on probability sampling where the probability of inclusion of each element in the sample is approximately equal (random sampling). This table indicates the percentage of times an error can occur in drawing a random sample of a specific size. It also indicates the degree of accuracy associated with it. The x-axis of the table describes the percentage of times the drawing of a random sample of a specific size will be incorrect. The y-axis describes the degree of accuracy that can be obtained.

If the sample size of this study is based on historical evidence, the reference table can be used to establish the percentage error as well as the associated degree of accuracy. To determine the sample size using historical evidence, the

size others have used for similar studies in the past should be evaluated (Churchill, 2000 : 467). This procedure will be used to determine the sample size of this study.

Churchill (2000 : 467) and Dillon et al (2000 : 279) both suggest typical sample sizes used for studies of human and institutional populations as well as for marketing research. According to Churchill (2000 : 467) the typical sample size of a national survey of institutions, where many sub-group analysis are necessary (as is the case in this study), would be 100+. Dillon, Madden and Firtle (2000 : 279) suggest that the typical size for a national probability marketing study would be 100 – 1 500.

It was decided that all of the 360 listed representatives of banks in the sample frame would be surveyed. However, the sample size of the unlisted banks was still to be determined. Based on the two typical sample sizes suggested by Churchill (2000 : 467) and Dillon, Madden and Firtle (2000 : 279), the survey of 1 000 unlisted representatives of banks seemed reasonable.

The total sample size for this study would thus be 1360 respondents of Walizer and Wienir (2003 : 433) can be used to establish the accuracy of this sample size. A sample size of 1360 on the table of Walizer and Wienir (2003 : 433) indicates a result of 3% on both the x-axis and the y-axis. Thus, considering the result of 3% on the x-axis, if a sample of 1360 is drawn, this sample will only be incorrect 3% of the occasions of use in representing the population. A sample representing the total population will thus be obtained 97% of the times. The y-axis indicates the degree of accuracy, which is also 3% for this sample size of 1360. Thus, the sample statistic obtained from the sample of 1360 will vary only $\pm 3\%$ with any other sample statistic obtained in any other attempt of drawing the same sample again.

4.5.4 Sampling technique

It was already indicated in paragraph 4.2 that all the elements (banks / representatives) will be included in the sample for listed banks and that a stratified sample will be drawn from bank representatives. A proportionate stratified sample of 1 360 bank representatives was drawn from the sample frame of 45 000 representatives of various banks. Each branch was regarded as a representative of a bank. In a proportionate stratified sample the number of elements in the total sample is allocated among the strata in proportionate to the relative number of elements in each stratum in the population (Churchill 2000 : 430). The sample elements are selected randomly and are thus based on probability methods. The number of elements in each stratum is given in EXHIBIT 4 : 2.

EXHIBIT : 4 : 2 THE STRATIFIED SAMPLE OF BANK REPRESENTATIVES

| Strata | Number of Bank representatives | Percentage Of Bank representatives | Number Selected representatives | Percentage selected |
|---------------------------------------|--------------------------------|------------------------------------|---------------------------------|---------------------|
| 1 Micro lending | 12 589 | 27,9 | 279 | 27,9 |
| 2 Manufacturing with a financial bank | 62 | 0,1 | 4 | 0,4 |
| 3 Investment banks | 6247 | 13,9 | 139 | 13,9 |
| 4 Retail banks | 23642 | 52,5 | 523 | 52,3 |
| 5 Development banks | 1473 | 3,3 | 32 | 3,2 |
| 6 International banks | 1054 | 2,3 | 23 | 2,3 |
| TOTAL | 45 067 | 100,0% | 1 000 | 100,0% |

Source: Own design research

The use of proportional stratification guarantees that stratified random sampling will be at least as efficient as simple random sampling (Dillon, Madden and Firtle 2000 : 283). Churchill (2000 : 431) emphasises that the use of stratified sampling is said to be more statistically efficient than any other procedure as it produces a smaller standard error of estimate.

4.6 DATA COLLECTION

When selecting a mail survey to conduct a survey, the researcher should be aware of the distinct disadvantages of low response rates.

The researcher used the following guidelines to ensure the best response rates possible:

- The questionnaire (design and format) was pre-tested twice to its acceptability.
- Anonymity of respondents and confidentiality of results were ensured. However, a secret code was used to facilitate follow-up.
- The covering letters were personally signed to inform respondents of the personal interest of the researcher in the survey (for a copy of the covering letter see Annexure C).
- Reply-paid envelopes were included with the questionnaires to facilitate the return of the questionnaire.
- A provision was created for respondents to choose between postal box number, fax number or email address.
- Follow-ups were used. Five days after posting the questionnaires, a follow-up letter was faxed to all respondents to ensure that they have received the questionnaire (for a copy of the follow-up letter see Annexure D).
- A return date for the questionnaire was included in the covering letter to assist in the second follow-up. One week after the expiry date for return of questionnaires, a second questionnaire was either faxed or emailed to all non-respondents again (for a copy of the covering letter used in the follow-up see (Annexure E).
- Postage of the questionnaires was also done in the second week of the month to ensure that the respondents, when receiving the questionnaire, would be free from month-end pressures in their respective banks.

- Due to the cost considerations, no incentives or rewards could be offered for proper completion of questionnaires. However, respondents could indicate whether they would require the results of the survey, which would be supplied to them free of charge.

A detailed outline of the exact information of the data collection procedure is given in EXHIBIT 4 : 3

EXHIBIT: 4 : 3 THE DATA COLLECTION PROCEDURE

| |
|---|
| <p>FIRST MAILING:</p> <p>Covering letter, questionnaire and return paid envelope posted on 4 April 2002 to 1360 respondents. (For a copy of the questionnaire see Annexure A and for the covering letter Annexure B)</p> |
| <p>SECOND MAILING:</p> <p>Follow-up letter sent on 10 April 2002 to 1360 respondents. (For a copy of the follow-up letter see Annexure C)</p> |
| <p>THIRD MAILING:</p> <p>Follow-up questionnaire, covering letter and return-paid envelope posted on 21 April 2002 to 1360 respondents (for a copy of the covering letter used in the follow-up see Annexure D)</p> |

Source: Own design research

Nearly every survey uses some form of sampling. Luck and Rubin (2003 : 209) emphasise that research usually reaches its conclusions on the basis of sampling. A proper understanding of sampling theory is thus necessary in order to appraise the reliability and validity of the sampling information. The sample design is a basic determinant of the quality of a study's results.

A number of tasks and decisions form part of the sampling procedures (Luck and Rubin, 2003 : 211). Luck and Rubin (2003 : 212) explain that the first step

in the sampling process is to define the population from which the sample is to be drawn.

4.7 THE PROCEDURE FOR ANALYSIS

4.7.1 Data processing

Data processing is the link between data collection and data analysis (ErWee 2001 : 39). Analysis usually requires that invalid responses be deleted, inconsistencies be found, data be coded and transcribed into machine-readable form, missing data be accounted for and the data be transformed (Dillon, Madden and Firtle, 2000 : 455). These requirements were met in this study as follows:

4.7.2 The inspection procedure

After a questionnaire was received, it was inspected to determine whether it was acceptable. Each questionnaire was given a reference number and the date of receipt noted. A completed questionnaire that contained more than four blank answers (questions not answered) was regarded as unusable. During the early stages of the survey, questionnaires received after the first and before the second posting, which were unusable, were returned to the respondent for proper completion. From the 501 responses, 11 questionnaires were regarded as unusable and were not analysed.

Some of the questionnaires were also returned to the sender, because they could not be delivered to the addressee. Alreck and Settle (2000 : 217) indicates that the percentage of non-delivered mail is an indicator of the quality of the mailing list. Only 14 questionnaires were returned to the sender, which is a mere 1% of the total number of questionnaires mailed. This percentage was acceptable and no replacements were made. A complete summary of the returns of the questionnaires is given in EXHIBIT 4 : 4.

EXHIBIT: 4 : 4 THE RETURNS OF QUESTIONNAIERS IN THE SURVEY

| RETURNS AFTER FIRST MAILING AND FOLLOW-UP | | |
|---|-----------------------|------------|
| | No. of Questionnaires | Percentage |
| Usable Coded Questionnaires: | | |
| Unlisted bank representatives | 321 | 64,1 |
| Listed bank representatives | 230 | 46,0 |
| Do not know | 90 | 18,0 |
| | 1 | 0,1 |
| Total Non-Response: | 17 | 3,4 |
| Non-Response: reason | 14 | 2,8 |
| Non-Response: no reason | 2 | 0,4 |
| Dormant bank representative | 1 | 0,2 |
| Questionnaires sent back to bank for completion | 10 | 2,0 |
| RETURNS AFTER SECOND MAILING QUESTIONNAIRES: | | |
| Usable Coded Questionnaires: | | |
| Unlisted Bank representatives | 141 | 28,1 |
| Listed Bank representatives | 103 | 20,6 |
| Do not know | 35 | 6,9 |
| | 3 | 0,6 |
| Total Non-Response: | 11 | 2,2 |
| Non-response: reason | 8 | 1,6 |
| Non-response: no reason | 3 | 0,6 |
| Return to sender: (Address unknown) | 14 | 2,7 |
| Unusable returns: | 11 | 2,2 |
| Listed bank representatives | 4 | 0,8 |
| Unlisted bank representatives | 7 | 1,4 |
| Total response | 501 | 100,0 |
| Total usable response | 462 | 92,2 |

Source: Own design research

From EXHIBIT 4 : 4 above, the response rate achieved in this survey can be calculated as 37,22%. There were 501 responses from the possible 1 346 people included in the sample (1 360 minus non-delivered mail of 14). The effective response rate (usable coded questionnaires) is 34,32% (462 responses from possible 1 346). The effective response rate for listed bank representatives is 34,72% (125 from possible 360) and for unlisted bank

representatives it is 33,77% (333 responses from possible 986). Four responses could not be identified as either from listed or unlisted bank representatives.

4.7.3 The editing process

The editing of the questionnaires was done by the researcher to ensure consistency. Questionnaires were checked for any inconsistencies, legibility and response completeness. Besides the 11 unusable questionnaires already deleted with the inspection phase, no inconsistencies were found.

4.7.4 The coding procedure

The coding of the questionnaires was also done by the researcher and was fairly easy as the Likert scale of measurement as well as closed-ended questions were used in the questionnaire. Only one open-ended question was asked, namely designation of the respondent. Questions that were not answered or which were ambiguous were disregarded and coded "0". It must again be stressed that any questionnaire containing more than 4 "0" codes was disregarded as a whole.

From the 510 responses, 462 questionnaires were usable and were coded.

4.7.5 The transferring of data

The data were transferred onto a database created in the Lotus 1-2-3 computer programme. The researcher transferred the data to ensure consistency and eliminate possible errors. To check for any possible errors, the completed database was used, a frequency distribution of each question was obtained by the researcher using SPSS-X computer package. The SPSS-X computer package is a statistical package for social sciences developed to perform statistical procedures (techniques) by means of a main frame computer. The results obtained from the frequency distributions were checked and where

problems appeared, they were corrected. The data was then ready for statistical analysis.

The final analysis of the data was done on a Sperry 1100 mainframe computer with the aid of the SPSS-X, release 2.0 statistical package, hereafter referred to as the SPSS-X computer package.

4.7.6 Treatment of non-respondents

The main disadvantage of using a mail survey was already emphasised as the low response rate achieved. The response rate for this survey was 37,22%. If only the usable questionnaires are regarded in calculating the response rate, a 34,32% return was achieved. The response rate of 34,32% can be regarded as satisfactory in relation to response rates obtained in other surveys. Woodburn (1983 : 20) only achieved a 13,72% response rate, while Coman (2000 : 9) managed a 6.6% response rate. Both researchers used a similar sample frame to this study. Bosch and Du Plessis (2000 : 76-88) achieved a 33,7% in their investigation into listed banks. Nel, Radel and Loubser (2000: 187) indicated that a response rate of 31, 5% was achieved in Business Management Review (BMR) mail surveys. However, non-response bias cannot be ignored. The failure to obtain information from some elements of the population can possibly result in a bias such that the final sample differs in a systematic way from the planned sample.

Alreck and Settle (2000 : 217) suggest a method to estimate non-response bias from the speed of response. They suggest that people who respond in later stages are assumed to have responded because of an increased stimulus. These answers therefore tend to look more like the non-respondents than those responding in earlier stages. This method was used in this study to account for non-responses.

4.7.7 An analysis of the variables required to establish relationships

Section C of the questionnaire requested some general information regarding the respondents, to facilitate comparisons and the establishment of relationships between Section A and Section B of the questionnaire.

The information needed was:

- Whether the respondent's bank can be regarded as young, growing or mature.
- Whether the respondent's bank uses all, two or more, one or none departments to initiate risk management.
- Whether the respondent's bank is large (1000 or more employees) or small (less than 1000 employees), considering the number of employees.
- Whether the respondent's bank is large (R10 million and more per annum) or small (less than R10 million per annum), considering the annual turnover.
- Whether the respondent is employed in a management or top management position.
- Whether the respondent's bank is listed on the Johannesburg Stock Exchange or not.

The information needed was obtained by the questions in Section C of the questionnaire. However, the determination of whether a respondent's bank was listed on the Johannesburg Stock Exchange or not was obtained by posting different coloured questionnaires to the sample of listed and unlisted bank representatives. Listed bank representatives received blue questionnaires whereas unlisted bank representatives received white questionnaires. The reason for not including a question requiring this information in Section C of the questionnaire was to ensure the anonymity of the respondents. The frequency distribution of the responses, indicating the number of bank representatives included in the various categories, is given in EXHIBIT 4: 5.

EXHIBIT: 4 : 5 THE RESPONSE FOR THE DIFFERENT CATEGORIES OF SECTION C OF THE QUESTIONNAIRE

| CATEGORY | NUMBER OF RESPONSES | PERCENTAGE |
|---|---------------------|------------|
| Type Of Bank: | | |
| Young | 32 | 6,9 |
| Growing | 247 | 53,5 |
| Mature | 177 | 38,3 |
| Not answered | 6 | 1,3 |
| TOTAL | 462 | 100,0 |
| Number Of Department To Initiate Risk Management: | | |
| All | 158 | 34,2 |
| Two or more | 185 | 40,0 |
| One | 75 | 16,3 |
| None | 38 | 8,2 |
| Not answered | 6 | 1,3 |
| TOTAL | 462 | 100,00 |
| Number of Employees: | | |
| Less than 1000 | 319 | 69,0 |
| 1000+ | 141 | 30,6 |
| Not answered | 2 | 0,4 |
| TOTAL | 462 | 100,00 |
| Annual Turnover: | | |
| Less than R10m | 98 | 21,2 |
| R10m + | 362 | 78,4 |
| Not answered | 2 | 0,4 |
| TOTAL | 462 | 100,00 |
| Respondent's Position: | | |
| Top Management | 230 | 49,8 |
| Management | 210 | 45,4 |
| Not answered | 22 | 4,8 |
| Total | 462 | 100,0 |

Source: Own design research: results obtained from analysis of section C of the questionnaire

From EXHIBIT 4: 5 the number of banks with specific attributes which were included in this survey can be established. The position of the respondent was obtained from an open-ended question, which was then coded. The distinction between top management and management was made on the basis that top

management represents any position regarding a directorship (for example managing director, marketing director, financial director or chairman). The management position indicates a managerial position (for example general manager, financial manager or marketing manager). A list of the various designations and number of the respondents is included in Annexure F.

Section C of the survey questionnaire did not differentiate between listed and unlisted banks. The different coloured questionnaires with a secret code identifying the respondent, gave information as to who the respondents were. The questionnaires received were given a reference number indicating whether they were received from a listed or unlisted bank. From the reference numbers indicated on the questionnaires, it was also possible to establish the name of the bank as well as the date when the questionnaire was received. These reference numbers also form part of the database established by the researcher. The database allowed for the determination of the following information:

- 333 unlisted bank representatives in total responded.
- 125 listed bank representatives in total responded.
- 4 bank representatives in total responded which could not be identified.
- 28 of the bank representatives, which responded, were among the top 100 Financial Mail banks during 2003 (Financial Mail, 2003 : 27-30).
- 137 bank representatives responded after the increased stimulus of a second posting of questionnaires.

Besides the five variables included in Section C of the questionnaire, two other variables were identified using reference numbers. These two variables were listed and unlisted bank representatives, and top bank representatives and other bank representatives.

4.8 CONCLUSION

To achieve the objectives of this study a planned research design was needed. In this chapter certain aspects of the research procedures on obtaining the

necessary information were discussed. The design of the sample was discussed. The population includes all operating banks listed in the banking sector of the Johannesburg Stock Exchange as well as unlisted banks selected from a classification, which is similar to the Standard Financial Classification of economic activities. All the listed banks operating in the financial sector of the Johannesburg Stock Exchange were included in the sample (only operating bank were included). A stratified sample of 1 000 bank representatives was drawn from various banks.

A mail survey was used to obtain information. This method necessitates the use of a questionnaire. The questionnaire design and format was discussed. To test the questionnaire before the main survey, two pre-tests were done. The data collection procedure was discussed as well as the processing of data obtained. One of the disadvantages of using a mail survey is low response rates. However, steps were taken to ensure a high response rate. A response rate of 37,22% was achieved in this study which proved to be reasonable. Non-response bias can, however, not be ignored. The methods used to account for non-response were therefore also discussed. The aspects discussed in this Chapter will clarify the data presentation and interpretation in Chapter 5 and Chapter 7.