

CHAPTER 3

RESULTS AND DISCUSSION OF THE EMPIRICAL STUDY

3.1 INTRODUCTION

The purpose of the chapter is to discuss the second phase of this study, the empirical research. A structured questionnaire formed the basis of the empirical research and the questionnaire was administered at 32 family businesses in the Tlokwe Municipality, North-West Province in South Africa.

The first step in the data analysis exercise was to capture and summarise all data. The data was then presented in tabular form and appropriate graphs such as pie charts were used to provide an overall picture of the data for each variable.

In this chapter the development and construction of the questionnaire, the process to collect the data and the response of family businesses will be discussed. The results of the empirical study will then be presented and discussed.

3.2 GATHERING OF DATA

In this section the development and construction of the questionnaire, the study population and the process to gather the will be discussed.

3.2.1 Development and construction of the questionnaire

Questionnaire design and administration is a crucial component of research projects. A well-designed questionnaire can provide the necessary data to address research questions, while a poor designed and administrated questionnaire will result in useless information (Frazer & Lawley, 2000:2).

The literature review provided valuable insight into the identification of the determinants of family harmony. Thirteen latent constructs were identified (Farrington 2009, Venter 2003 & Sharma 1997). A total of 94 items were identified to measure the 13 constructs determining family harmony in family businesses. Two questionnaires, i.e. for active and inactive family members, were designed to evaluate these constructs (refer to Appendix A & B). Both the questionnaires contain the same questions, but the active family member questionnaire contains also a Section C. This is an extra section to be completed by the senior generation owner-manager to gather structural information of the business.

The questionnaire used in this study assessed the thirteen latent constructs on the basis of a 7-point Likert type scale ranging from Strongly Disagree (1) to Strongly Agree (7).

3.2.2 Data collection

The target population of this study was small and medium-sized family businesses in the Tlokwe Municipality in the North-West Province in South Africa. All the family members, including the active and inactive members, participated in this study and family members have to complete the questionnaires on an individual basis.

Each questionnaire was sent with a covering letter that guaranteed the confidentiality of the responses. Three week's time was given for the participants to complete the questionnaire. After that, all family businesses were visited in person to collect all the completed questionnaires. Although the collection date was communicated to all specific contact persons within the different family businesses, many questionnaires were still outstanding three weeks after the initial due date. A final cut-off date was determined and family businesses who did not respond were contacted to inform them that the time to complete the questionnaire has elapsed. They were thanked for their efforts to take part in the survey.

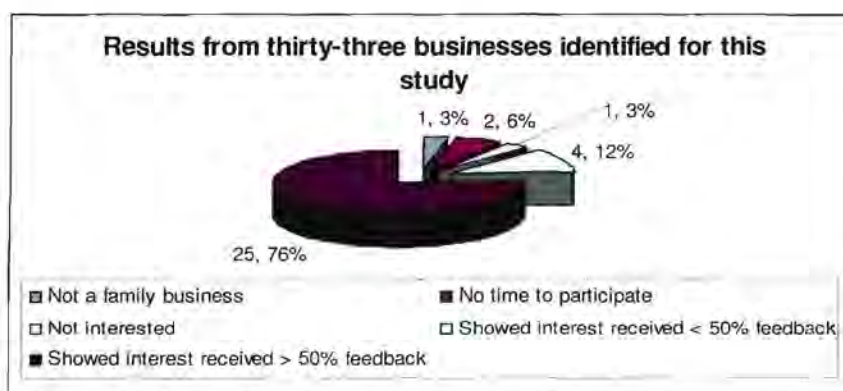
A major challenge experienced throughout the data collection process was to persuade all family members (active and inactive) to complete the questionnaire.

3.3 RESPONSES TO THE SURVEY

The snowball sampling technique was used to identify possible family businesses to participate in this study. A total of 33 businesses were identified for this study, of which one turned out not to be a family business, one was not interested to take part in the study and another two businesses indicated that they do not have time to complete the questionnaire, thereby decreasing the number of possible family businesses to participate in this study to 30. The end result was that from the 33 family businesses contacted a total of 29 family businesses completed the questionnaire; this represents a final response rate of 88%.

The response of the 33 businesses identified and that took part in this study is graphically presented in Figure 3.1.

Figure 3.1: Results from thirty-three possible family businesses identified for this study



Twenty-nine family businesses eventually took part in the survey. Four of these businesses' feedback are indicated to be below 50% (refer to Figure 3.1); this means that less than half of the family members in those particular family businesses completed the questionnaires. In the remaining of the businesses (25) more than half of the family members submitted fully completed or usable questionnaires.

3.4 RESULTS OF BIOGRAPHICAL DATA

As mentioned earlier in this chapter, two family business questionnaires were used, one for active family members and one for inactive family members. The family business questionnaire for active family members is divided into three sections (refer to Appendix A). The family business questionnaire for inactive family members is divided only into two sections (refer to Appendix B). Section A for both active and inactive members contains identical questions on the different constructs of family harmony. Section B for both active and inactive members also contains identical questions on the biographical data of each participant.

The biographical data that were obtained such as age, gender, marital status, relationship to the senior generation family member, highest academic qualification and percentage shareholding can have an influence on the results of this study. Section C was only included in the active family members' questionnaire, this section was only to be completed by one senior generation executive manager. This section enclosed questions on the structure of the family business.

3.4.1 Involvement of family members

A total of 102 active questionnaires and 59 inactive questionnaires (161 in total) were handed out to the participants to be completed and a total of 81 active and 39 inactive questionnaires (120 in total) were completed by participants. This resulted in a response rate of 75% of the total questionnaires handed out.

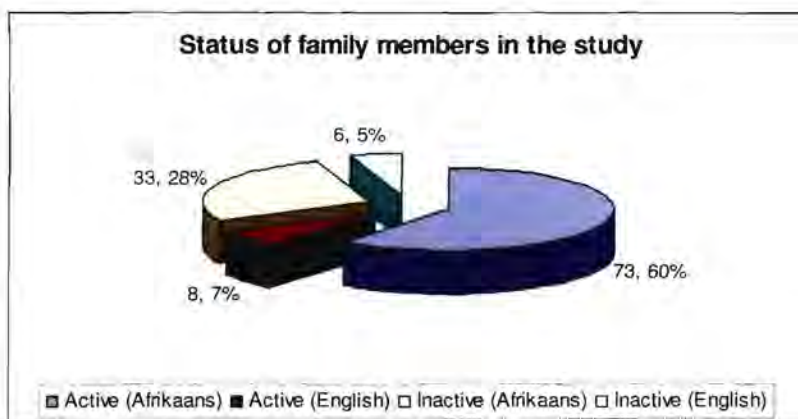
- **Purpose of the question**

The purpose of this section was to determine the involvement (active and inactive family members) of the family members in the participating family businesses.

- **Results obtained**

The relationship between active (Afrikaans and English) and inactive family members (Afrikaans and English) that participated in the study is graphically presented in Figure 3.2 below.

Figure 3.2: Involvement of family members in the participating family businesses



Active family members are those who are permanently employed in the family business and they represent the majority of the study population and respondents. The inactive family members are those that are not permanently employed in the family business and could include spouses, children, in-laws, brothers and sisters. Although the inactive family members were the minority in this study, they still form a fundamental part of the family dynamics.

- **Analysis of the results**

Of the 120 questionnaires that were completed by family members, two thirds were completed by active and only one third by inactive family members.

3.4.2 Age group categories of family members

- **Purpose of the question**

The purpose of question B1 in Section B (refer to Appendix A & B) of the questionnaire was to determine the age group classifications of participants. Five predefined age groups were given in which participants have to indicate their age.

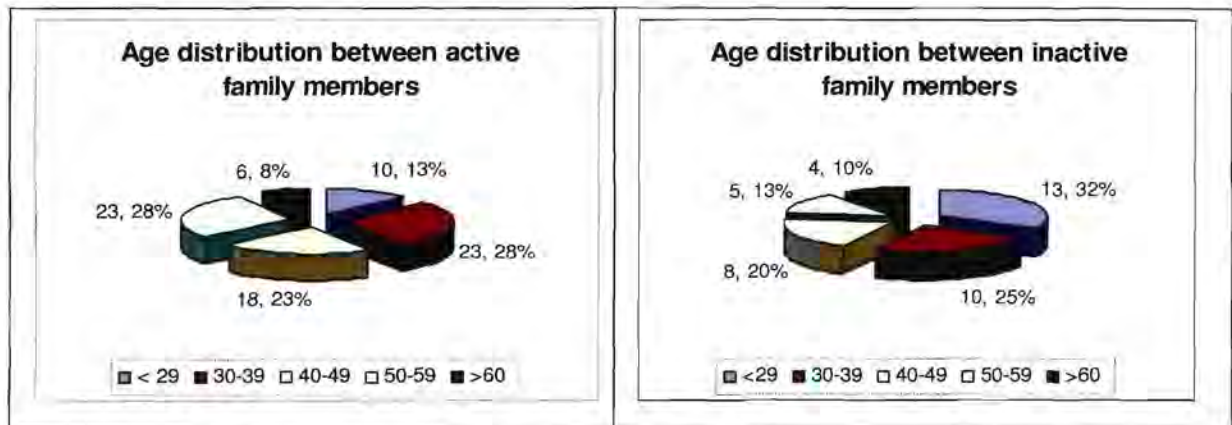
- **Results obtained**

The age groups of all family members that responded to the survey are presented in Table 3.1 below and Figure 3.3 on the following page.

Table 3.1: Age groups of participating family members

Category	Active		Inactive		Total	
	Total	%	Total	%	Total	%
<29	10	13%	13	32%	23	19%
30 – 39	23	28%	10	25%	33	28%
40 – 49	18	23%	8	20%	26	22%
50 - 59	23	28%	5	13%	28	23%
60+	6	8%	4	10%	10	8%
Total	81	100%	39	100%	120	100%

Figure 3.3: Age group distribution between active (left) and inactive (right) family members



- **Analysis of the results**

More than half (56%) of all active family members represent only two age groups, between 30 and 39 and between 50 and 59 years, each of these age groups were equally represented by 28% of the respondents. The other half is distributed between the other 3 age categories.

One third (32%) of the inactive family members are younger than 29 years, this represents the number of participants that are either still in school or studying for their bachelors degree at university.

3.4.3 Gender of family members

- **Purpose of the question**

The purpose of question B2 in Section B (refer to Appendix A & B) of the questionnaire was to determine and to differentiate between the number of male and female participants. The respondents had to select between the male and female category in the questionnaire.

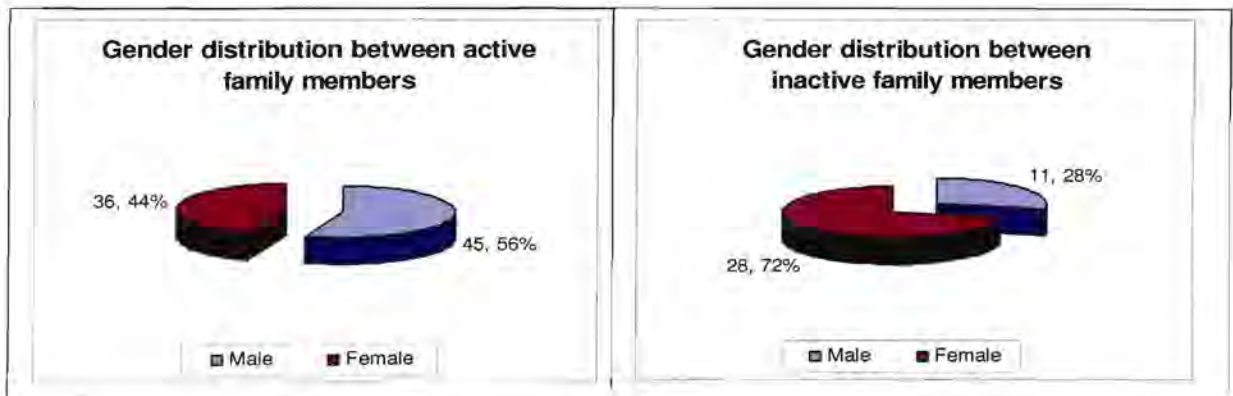
- **Results obtained**

Both active and inactive family members' gender are presented in Table 3.2 and Figure 3.4 below

Table 3.2: Gender distribution of family members

	Active		Inactive		Total	
	Total	%	Total	%	Total	%
Male	45	56%	11	28%	56	47%
Female	36	44%	28	72%	64	53%
Total	81	100%	39	100%	120	100%

Figure 3.4: Gender distribution between active (left) and inactive (right) family members



- **Analysis of the results**

Figure 3.4 and Table 3.1 above indicate that family businesses in this study are represented 64 (53%) by females and 56 (47%) by males. Active family members were represented 45 (56%) by males and 36 (44%) by females and inactive family members were represented by 11 (28%) males and 28 (72%) females.

3.4.4 Marital status of family members

- **Purpose of the question**

The purpose of question B3 in Section B (refer to Appendix A & B) of the questionnaire was to determine the marital status of all the participants. Marital status influences the decision-making process and the way the family business are managed. Participants had to choose between four marital status groupings: single, married, divorced and widow(er). Participants were asked to indicate their marital status by selecting the applicable marital status category in the questionnaire.

- **Results obtained**

The marital status of family members that responded to the survey is presented in Table 3.3 below and Figure 3.5 on the following page.

Table 3.3: Marital status of family members

Marital status	Active		Inactive		Total	
	Total	%	Total	%	Total	%
Single	11	14%	9	23%	20	17%
Married	64	78%	27	69%	91	76%
Divorced	3	4%	2	5%	5	4%
Widow (er)	3	4%	1	3%	4	3%
Total	81	100%	39	100%	120	100%

Figure 3.5: Marital status of active (left) and inactive (right) family members



- **Analysis of the results**

Figure 3.5 indicates that the majority 91 (76%) of participants are married. Sixty four (78%) are active and 27 (69%) inactive family members. Twenty (17%) family members are still single, where 11 (14%) are active and nine (23%) are inactive. Five (4%) of all family members are divorced - this divorce rate represented three (4%) active two (5%) inactive family members. Four (3%) of all respondents are widow, three (4%) are active and only one (3%) are inactive in their respected family businesses.

3.4.5 Relationship to the family

- **Purpose of the question**

The purpose of question B4 in Section B (refer to Appendix A & B) of the questionnaire was to determine the relationship of all family members to the senior generation owner-manager. The relationship information indicates if the active and inactive family members are directly or indirectly related to senior generation owner-manager. This relationship and the birth order of siblings can have a huge impact on the way family businesses are managed. Participants had to indicate their relationship to the owner-manager by selecting the applicable relationship in the questionnaire.

- **Results obtained**

The relationship between all family members to the owner or senior generation executive is presented in Table 3.4 below.

Table 3.4: Family members' relationship with the owner / senior generation executives

Relationship	Active		Inactive		Total	
	Total	%	Total	%	Total	%
Owner	27	33%	1	3%	28	23%
Spouse	20	24%	10	26%	30	25%
Brother	3	4%	1	3%	4	3%
Sister	1	1%	1	3%	2	2%
Son 1	8	10%	5	14%	13	11%
Son 2	5	6%	2	5%	7	6%
Son 3	1	1%	0	0%	1	1%
Son 4	1	1%	0	0%	1	1%
Daughter 1	4	5%	4	11%	8	7%
Daughter 2	2	2%	2	5%	4	3%
In-law	9	11%	8	22%	17	14%
Other	2	2%	3	8%	5	4%
Total	83	100%	37	100%	120	100%

- **Analysis of the results**

Seventy-two (87%) of the participating active family members are directly related to each other (parents and their children that are actively involved in the family business). Moreover, forty-seven (57%) of owners and their spouses are actively involved in the family business.

3.4.6 Highest academic qualification of family members

- **Purpose of the question**

The purpose of question B5 in Section B (refer to Appendix A & B) of the questionnaire was to determine the highest academic qualification of all the participants. The level of formal qualification has an impact on the way the business is managed and can influence the attitude, development, performance and risk profile of the family member. Participants had to choose between the different qualifications categories: lower than matric, matric, certificate, technical college or technicon diploma, university degree or post graduate degree. Participants were asked to indicate their highest qualification by selecting the applicable qualification category in the questionnaire.

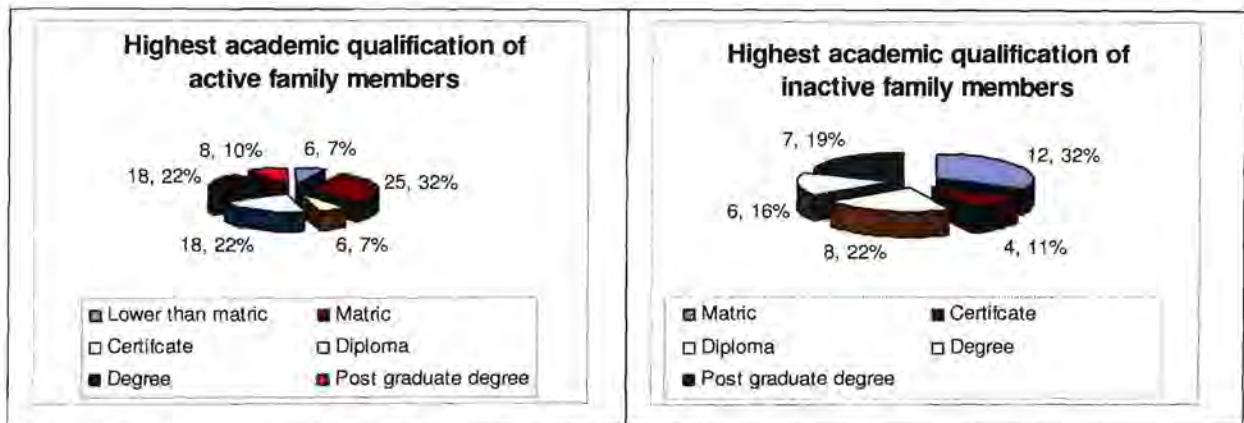
- **Results obtained**

The highest academic qualifications of all participating family members are presented in Table 3.5 below and Figure 3.6 on the following page.

Table 3.5: Highest academic qualification of family members

Qualification	Active		Inactive		Total	
	Total	%	Total	%	Total	%
Lower than matric	6	7%	2	5%	8	7%
Matric	25	32%	12	31%	37	31%
Certificate	6	7%	4	10%	10	8%
Diploma	18	22%	8	21%	26	21%
University degree	18	22%	6	15%	26	21%
Post graduate degree	8	10%	7	18%	15	12%
Total	81	100%	39	100%	120	100%

Figure 3.6: Highest academic qualification distribution of active (left) and inactive (right) family members



- **Analysis of the results**

The highest academic qualification distribution for active family members in this study show that six (7%) did not finish matric or are still in school, twenty five (32%) finished matric, six (7%) have a certificate, eighteen (22%) have a diploma or a university degree and only eight (10%) have a post graduate degree.

The highest qualification distribution for inactive family members in this study show that two (5%) did not finish matric or are still in school, twelve (31%) finished matric, four (10%) have a certificate, eight (21%) have a diploma, six (15%) have a university degree and seven (18%) have a post graduate degree.

3.4.7 Shareholding by the family members

- **Purpose of the question**

The purpose of question B7 in Section B (refer to Appendix A & B) of the questionnaire was to determine the percentage of shares owned by the participants. The percentage of shares owned by family members can have an impact on the loyalty, commitment

and general harmony among family members and family members had to indicate their shareholding in the family business.

- **Results obtained**

The results obtained from participants in this study are presented in Table 3.6 and Figure 3.7 below and Figure 3.8 on the following page.

Table 3.6: Shareholding distribution between family members

Shareholding	Active		Inactive		Total	
	Total	%	Total	%	Total	%
< 10%	20	27%	24	62%	44	36%
10 – 20%	4	5%	2	5%	6	5%
21 – 50%	28	39%	5	13%	33	28%
51 – 100%	16	22%	2	5%	18	15%
No indication	13	16%	6	15%	19	16%
Total	81	100%	39	100%	120	100%

Figure 3.7: Shareholding distribution amongst active (left) and inactive (right) family members

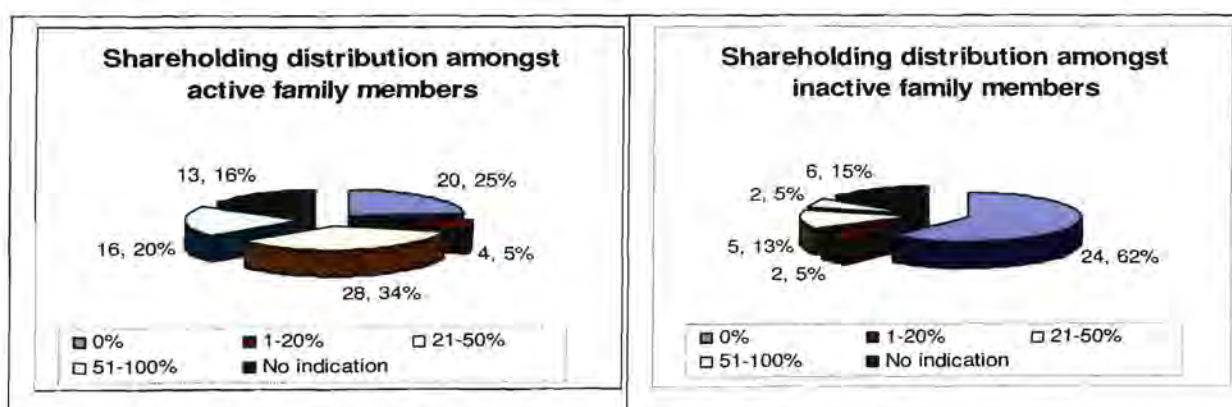


Figure 3.8: Family businesses whose shareholding distribution did not add up to 100 percent



- **Analysis of the results**

The shareholding distribution for active family members in this study indicates that twenty (25%) do not own any shares, four (5%) own between 1 to 20 percent of the shares, twenty-eight (34%) own between 21 to 50 percent of the shares and sixteen (20%) of family members own between 51 to 100 percent of the shares in their respective family businesses. The other thirteen (16%) did not give an indication regarding their shareholding percentages.

The shareholding distribution for inactive family members in this study shows that twenty-four (62%) do not own any shares, two (5%) own between 1 to 20 percent of the shares, five (13%) own between 21 to 50 percent of the shares and two (5%) of family members own between 51 to 100 percent of the shares in their respective family businesses. The other six (15%) did not give an indication regarding their shareholding percentages.

Only 16 (55%) of the family businesses that participated in this study completed this section correctly. The other 13 (45%) of the businesses' shareholding distribution percentages did not add up to 100%. In some of the businesses family members owned up to 400% in the same family business (refer to Figure 3.8).

3.4.8 SUMMARY OF BIOGRAPHICAL INFORMATION ANALYSIS

Only 29 of the 33 family businesses originally identified to take part in this study eventually completed the questionnaires.

Eighty one (67%) of the 120 family members that participated was active, thus permanently employed by the business. One third (33%) of all the active and inactive family members that responded falls in the 30 – 39 year age group. Thirty six percent of CEO's are above 50 years of age. The number of active and inactive males and females are almost evenly distributed (56 males, 64 females), although more females responded to the survey, active males still dominate the ownership of family businesses by 12% over their female counterparts.

The results indicate that the majority (76%) of respondents are married. Eighty seven percent of active members are directly related to each other, parents and their children actively involved in the family business. More than half, 47 (57%) of owners and their spouses are actively involved in the family business. Only 26 (32%) of active family members are formally educated at a university. The majority of active shareholders (39%) own between 21% and 50% of the shares in their family businesses.

3.5 RESULTS OF FAMILY BUSINESS INFORMATION

Section C of the active family member questionnaire was only completed by the senior generation owner-manager of the participating family businesses. This section gathered information such as the number of permanent employees in the business, family business turnover, the business industry, age of the business, generation (e.g. 1st, 2nd or 3rd) family members involved in the business and the legal status of the participating family businesses.

3.5.1 Number of permanent employees

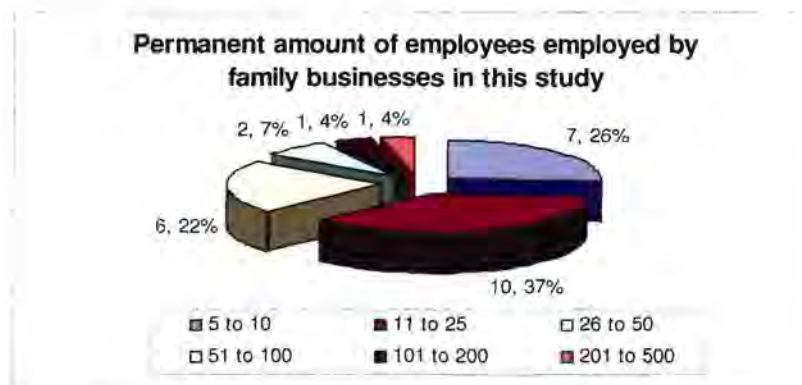
- **Purpose of the question**

The purpose of question C1 in Section C (refer to Appendix A) of the questionnaire was to obtain the number of employees employed in the family business and to determine whether the family business can be classified as a micro-, small- or a medium-sized enterprise.

- **Results obtained**

The number of employees employed by the family businesses is graphically presented in Figure 3.9.

Figure 3.9: Permanent employees employed by family businesses



- **Analysis of the results**

Family businesses with 5 to 10 permanent employees (very small businesses) were represented by seven (26%) of the participating family businesses. Family businesses with 11 to 50 permanent employees (small businesses) were represented by 16 (55%) of the participating family businesses. Only three (10%) of the participating family can

be classified as medium-sized businesses (51-200 permanent employees) and only one (4%) as a large business (200 plus employees).

3.5.2 Family business turnover

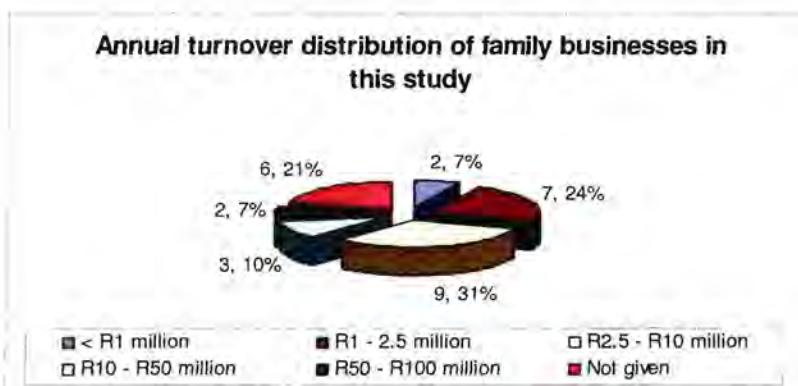
- **Purpose of the question**

The purpose of question C2 in Section C (refer to Appendix A) of the questionnaire was to obtain information on the financial success and the size of the family businesses.

- **Results obtained**

The annual turnover of family businesses in this study is graphically presented in Figure 3.10.

Figure 3.10: Annual turnover of family businesses



- **Analysis of the results**

Nine (31%) of the family businesses' annual turnover were between the R2.5 to R 10 million range, followed by seven (24%) between the R1 to R2.5 million range, three (10%) in the R10 to R 50 million range, two (7%) in the smaller than R1 million and

between the R50 to R100 million ranges respectively. Six (21%) of the owner-managers did not indicate their family businesses' annual turnover.

3.5.3 Family business industry focus

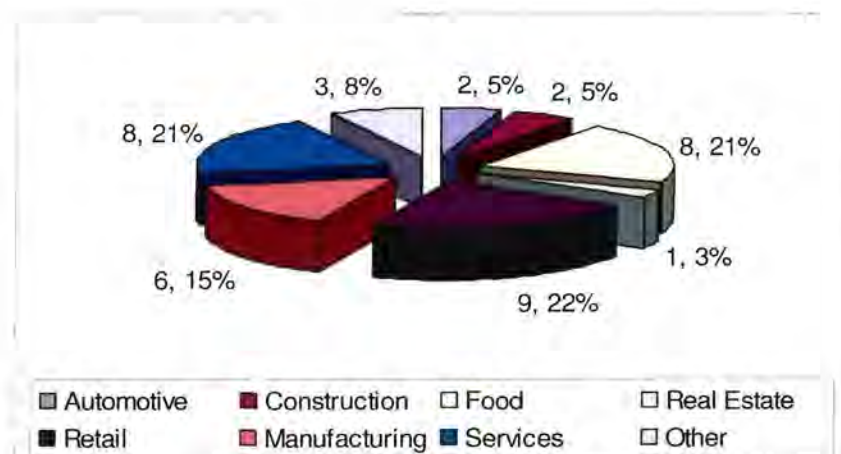
- **Purpose of the question**

The purpose of question C3 in Section C (refer to Appendix A) of the questionnaire was to obtain information on the industry that the family businesses operates in. The industry may have an impact on the number of permanent employees required, the academic qualifications of the participants to keep the business operational, as well as the expected turnover.

- **Results obtained**

The industries in which the family businesses in this study operate is graphically presented in Figure 3.11

Figure 3.11: Family businesses' industry focus



- **Analysis of the results**

Nine (22%) of the family businesses in the study operate in the retail industry, followed by eight (21%) in the food industry and service industry respectively, six (15%) in the manufacturing industry, three (8%) in other industries, two (5%) operate in the automotive and construction industries respectively and only one (3%) in real estate. None of the responding family businesses in this study operate in either agriculture or farming or in the wholesale industries. Nine (31%) of the family businesses in this study indicated that they operate in two different industries and one (3%) indicated that they operate in three different industries.

3.5.4 Age of family businesses

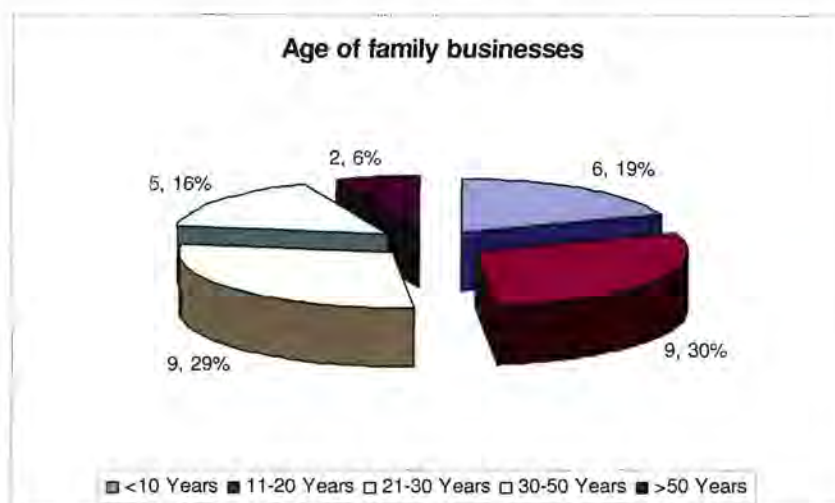
- **Purpose of the question**

The purpose of question C4 in Section C of the questionnaire (refer to Appendix A), was to obtain information on age distribution of the participating family businesses. The age distribution analysis could be an indication of the possibility of the family businesses to survive towards the next generation.

- **Results obtained**

The age distribution analysis of family businesses in this study is graphically presented in Figure 3.12 on the following page.

Figure 3.12: Age distribution of family businesses



- **Analysis of the results**

Only one fifth of all the businesses in this study exist for longer than thirty years, the majority, however, range between the ages of 11 to 20 years (30%) and 21 to 30 years (29%). Nineteen percent of all the businesses in this study are still very young and within their first ten years of existence. Only six percent survived for longer than 50 years.

3.5.5 Generation of the family

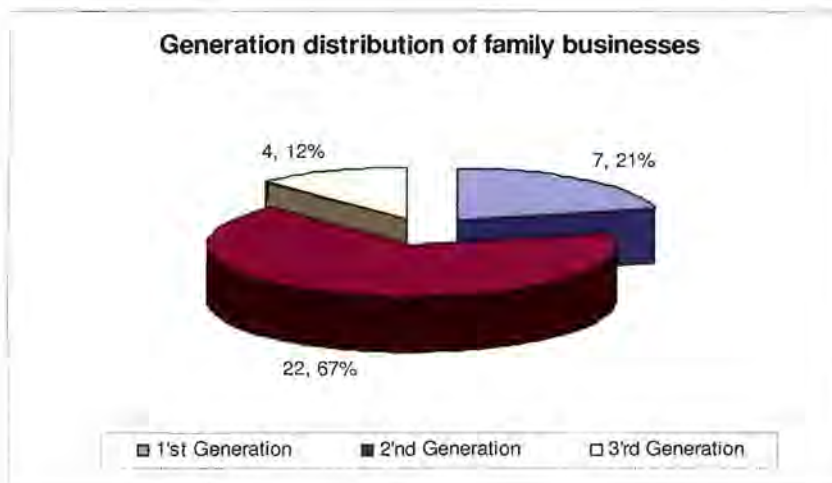
- **Purpose of the question**

The purpose of question C5 in Section C of the questionnaire (refer to Appendix A), was to obtain information on generation of the family managing or owning the participating family businesses. The current generation of the family meaning the family business could be an indication of the possibility of the family businesses to survive towards the next generation.

- **Results obtained**

The generation analysis of family businesses in this study is graphically presented in Figure 3.13.

Figure 3.13: Generation distribution of family businesses



- **Analysis of the results**

The majority of family businesses are already in the second generation (67%) and 21 percent are in the third generation. This means that these family businesses has found a successful successor within their families to take over the reins from his or her father or mother and successfully lead the business through the transition period. Not one family business in this study has succeeded towards the fourth generation. Four (12%) family businesses are still within the first generation family members.

3.5.6 Legal status of the family business

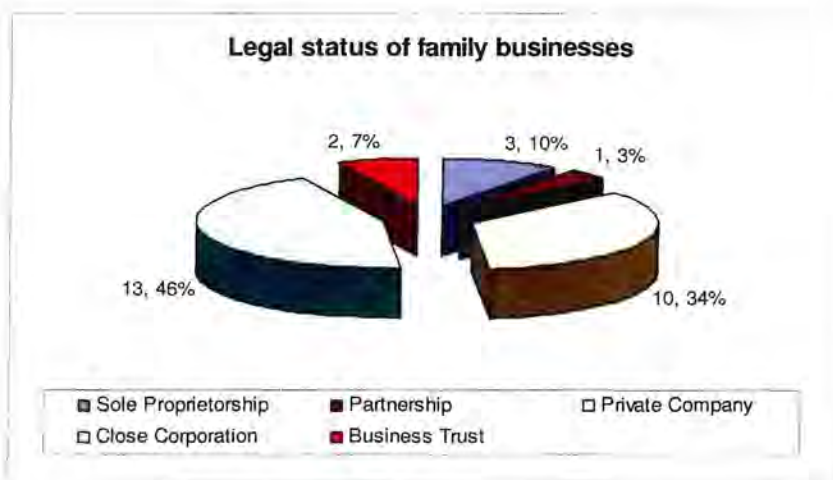
- **Purpose of the question**

The purpose of question C6 in Section C (refer to Appendix A) of the questionnaire was to obtain information on the legal status of the family businesses that participated in this study. The legal status of the family businesses is important when ownership planning in the family business takes place.

- **Results obtained**

The legal statuses of family businesses in this study are graphically presented in Figure 3.14.

Figure 3.14: Legal status of family businesses



- **Analysis of the results**

The majority, thirteen (46%) of the family businesses in this study are registered close corporations (CC's), ten (34%) are registered private companies, three (10%) sole

proprietorships, two (7%) use business trusts and only one (3%) uses a partnership to structure their respective family businesses. None of the family businesses in this study is a registered public company and none of the participating owner-managers indicates more than one legal status to structure their respective business.

3.5.7 SUMMARY OF FAMILY BUSINESS INFORMATION ANALYSIS

All twenty-nine (100%) of the family businesses in this study are situated in the Tlokwe Municipality District of the North-West Province.

The size-classification of family businesses in this study is only determined by the number of permanent employees employed in the business. Therefore, no micro family business (1 to 4 permanent employees) responded to this study. Twenty-three (59%) family businesses in this study are classified as small family businesses (5 to 50 permanent employees), three (10%) are classified as medium family businesses (51 to 200 permanent employees) and only one (4%) is classified as a large family businesses (> 200 permanent employees).

The annual turnover of family businesses in this study (refer to question C2 in Appendix A and paragraph 3.4.2) is a very sensitive issue, since 21% of the family businesses in this study did not indicate their annual turnover.

The combined operating years between the 29 responding family businesses are 667 man years (an average of 23 years per family business). Almost one fifth (21%) is less than 10 years in business. Four (14%) family businesses are forty years and older. The oldest family business in this study has been in operation for the last 73 years. No family business in this study has yet made it towards the fourth generation.

The most popular business form in this study seem to be close corporations (46%), followed by private companies (34%), sole proprietorships (10%), business trusts (7%) and only one partnership (3%).

3.6 RELIABILITY OF THE QUESTIONNAIRE

In order to establish the internal consistency between the items of the questionnaire, Cronbach alpha coefficients were calculated (Page & Meyer, 2000:292). An instrument that produces different scores every time that it is used on the same person under the same conditions has low reliability (Field, 2005:666). The Cronbach alpha coefficient is based on the average correlation of variables within a test (SAS Institute, Inc., 2005:295). The greater the Cronbach alpha coefficient, the more reliable is the scale. A Cronbach alpha coefficient greater than 0.7 could be interpreted as reliable and internally consistent (SAS Institute Inc., 2005).

Table 3.7: Cronbach alpha coefficients of constructs

Constructs	Cronbach alpha coefficient
Open communication	0.886
Mutual trust and respect	0.912
Conflict	0.895
Family commitment	0.885
Personal needs alignment	0.887
Fairness	0.811
Leadership	0.845
Governance	0.904
Division of labour	0.855
Inactive family members	0.754
Non-family members	0.837
Senior generation of family members	0.781
Financial performance	0.876
Perceived future continuity	0.886
Harmony	0.938

All 120 participants' responses were used to determine the reliability of the different constructs (refer to Table 3.7 above).

The results from Table 3.7 indicate that all the constructs have a Cronbach Alpha coefficient above the routine cut-off value of 0.70 (SAS Institute Inc., 2005). This suggests that the questionnaire used in this study to measure the latent constructs has acceptable reliability and are, therefore, internally consistent.

3.7 EVALUATION OF THE CONSTRUCTS DETERMINING FAMILY HARMONY

The relatively low numbers on a Likert scale type questionnaire (e.g. where 1 = Strongly disagree; 7 = Strongly agree), represent disagreement with the statement and relatively high numbers represent agreement with the statement. Thus, a higher number representing agreement with the statement suggests that the statement is perceived to be true by the respondents. Likewise, a low number representing disagreement with the statement suggests that the statement is perceived to be false.

The average response or mean (\bar{x}) and the standard deviation (s) (variation around the mean) of each of the 13 constructs (independent variables) towards family harmony (dependent variable) are presented in Table 3.8.

Table 3.8: Evaluation of the constructs measuring family harmony

Construct	n	\bar{x}	s
Commitment	120	6.250	0.882
Mutual trust and respect	120	6.217	0.846
Leadership	120	6.023	0.913
Financial performance	120	5.864	1.082
Inactive family members	120	5.858	1.110
Fairness	120	5.851	0.903
Open-communication	120	5.800	0.979
Senior generation family members	120	5.780	1.004
Personal needs	120	5.640	1.121
Conflict	120	5.608	1.126
Division of labour	120	5.425	1.081
Non-family members	120	4.627	1.445
Governance	120	4.350	1.429
Total	120	5.638	1.071

The constructs' average score of, $\bar{x} = 5.638$, indicates that respondents, overall, strongly agree with the statements and suggests that the items measuring family harmony can be perceived as true. The constructs to which the respondents agree the best concerning the statements in the questionnaire are that of **Commitment** ($\bar{x} = 6.250$), **Mutual trust and respect** ($\bar{x} = 6.217$) and **Leadership** ($\bar{x} = 6.023$). The respondents also have a strong agreement towards the statements in the questionnaire concerning **Financial performance** ($\bar{x} = 5.864$), **Inactive family members** ($\bar{x} = 5.858$), **Fairness** ($\bar{x} = 5.851$), **Open communication** ($\bar{x} = 5.800$), **Senior generation family members** ($\bar{x} = 5.780$), **Personal needs alignment** ($\bar{x} = 5.640$), **Conflict** ($\bar{x} = 5.608$), **Division of labour** ($\bar{x} = 5.425$) and **Non-family members** ($\bar{x} = 4.627$).

The construct, **Governance** ($\bar{x} = 4.350$) obtained the lowest average score. This indicates a relatively low agreement with the statements / items concerned with governance.

The standard deviations across all 13 constructs' averages are fairly high, ranging from 0.846 to 1.445 (on a 7-point scale).

The mean and standard deviation for the dependent variable, **Family harmony**, was calculated at 6.277 ($\bar{x} = 6.277$) and 0.935 ($s = 0.935$) respectively.

3.8 EVALUATION OF THE CONSTRUCT PERCEIVED FUTURE CONTINUITY

The construct, **Perceived future continuity** obtained an average score of ($\bar{x} = 5.852$) and a standard deviation of ($s = 0.948$). This indicates a relatively high agreement with the statements / items concerned with the construct. The coefficient or correlation for this construct **Perceived future continuity** was calculated at ($r = 0.639$), which also indicate the relatively strong linear relationship between the construct and family harmony.

3.9 CORRELATION BETWEEN FAMILY HARMONY AND CONSTRUCTS

To investigate the correlation between the dependent variable, family harmony, and the independent variables, Pearson correlation coefficients (r) were calculated and are presented in Table 3.9 (refer to Field, 2005:111). Levine, Stephan, Krehbiel and Berenson (2007:131) indicate that the coefficient of correlation indicates the linear relationship between two numerical variables. When the coefficient of correlation gets closer to +1 or -1, the linear relationship between the two variables is stronger.

Table 3.9: Correlation between family harmony and constructs

Constructs	Coefficient of Correlation (<i>r</i>)	Coefficient of Determination (<i>R</i>²)
Open communication	0.821	0.674
Mutual trust and respect	0.925	0.856
Conflict	0.705	0.705
Family commitment	0.819	0.671
Personal needs alignment	0.738	0.545
Fairness	0.696	0.484
Leadership	0.848	0.719
Governance	0.392	0.154
Division of labour	0.584	0.341
Inactive family members	0.465	0.216
Non-family members	0.313	0.098
Senior generation of family members	0.647	0.419
Financial performance	0.598	0.358
Perceived future continuity	0.639	0.408
Harmony	1	1

In order to determine whether the effect of the relationship between two constructs is important or meaningful, the size of the effect should be measured. Effect sizes are useful because they provide an objective measure of the importance of an effect (Field, 2005:32). A correlation coefficient of 0 means there is no visible relationship, and a value of 1 means that there is a perfect relationship. Cohen (1992), according to Field (2005:32), made the following widely accepted suggestions about what constitutes a large or small effect:

- $r = 0.10$ (small effect): in this case, the effect explains 1% of the variance
- $r = 0.30$ (medium effect): the effect accounts for 9% of the variance
- $r = 0.50$ (large effect): the effect accounts for 25% of the variance

Based on Cohen's rules, it is evident from Table 3.9 that the independent variables, **Non-family members** ($r = 0.313$), **Governance** ($r = 0.392$) and **Inactive family members** ($r = 0.465$) have a medium effect on the dependent variable, **Family harmony**.

Independent variables, such as **Mutual trust and respect** ($r = 0.925$), **Leadership** ($r = 0.848$), **Open communication** ($r = 0.821$) and **Family commitment** ($r = 0.819$) have a large or practical significant effect ($r > 0.50$) on the dependent variable, **Family harmony** (refer to table 3.9).

Field (2005: 128) warns that care should be taken when interpreting correlation coefficient results because the direction of causality could not be determined. Furthermore, a third variable could also have an influence on a specific bivariate correlation. In order to measure the amount of variability in one construct that is explained by the other, the coefficient of determination (R^2) were determined.

As an example, the results indicate that 67.4% ($r = 0.821$; $R^2 = 0.67$) of the variance between the independent variable, **Open communication**, and the dependent variable, **Family harmony**, is shared. The balance, 32.6%, can be ascribed to measurement errors in the variables **Open communication** and **Family harmony**, together with the influence of other unknown factors. Refer to Table 3.9 for the rest of the coefficient of determination values.

3.10 RELATIONSHIP BETWEEN THE DEMOGRAPHIC VARIABLES AND THE CONSTRUCTS

Statistical significance tests have the tendency to yield small p-values (indication of significance) as the size of the data sets increases. If the variables have a p-value of ($p < 0.05$) one could assume that the variable is statistically significant regarding to that specific constructs' contribution towards family harmony. The effect size, however, is independent of the sample size and is a measure of practical significance (Ellis & Steyn,

2003:51). A natural way to comment on practical significance is to use the standardised difference between the means of two populations, i.e. the difference between the two means divided by the estimate for standard deviation, $d = \frac{|\bar{x}_{diff}|}{s_{diff}}$, where $|\bar{x}_{diff}|$ is the difference between the average scores of active and inactive family members, without taking the sign into consideration, and s_{diff} is the standard deviation of the difference.

In this study effect sizes (d-values) were calculated between the mean values to determine the relationship between all the constructs (refer as from Table 3.10 up to Table 3.13) and demographic variables, such as family involvement (Table 3.10), highest academic qualification (Table 3.11), age group classification (Table 3.12) and gender (Table 3.13) respectively. The effect sizes are shown in each Table regarding a specific demographic variable.

For the purpose of this study, any statistical significant differences regarding the p-values ($p\text{-value} \leq 0.05$) will only be mentioned, but any significant differences regarding the d-values will be discussed, since the d-value (or effect sizes) implies a stronger or more valid test than the p-value. Effect sizes (d-values) will be interpreted, according to Cohen's guidelines, as follows: small effect (d-value = 0.2), medium effect (d-value = 0.5), and large effect (d-value = 0.8). Results with medium effects can be regarded as visible effects and with d-value ≥ 0.8 as practical significant, since it is the result of a difference having a large effect (Field 2005:32; Ellis & Steyn 2003:51-53; Thompson, 2001:80-93). The demographical data that will be used in this study are classified according to the following categories:

- Family involvement: Active (family members employed by the business); inactive (family members not employed by the business).
- Highest academic qualification: \leq Matric; $>$ matric.
- Age group: 40 years and younger; over 40 years of age.
- Gender: Male and female.

Table 3.10 to Table 3.13 shows the relationship between the different demographic variables and the constructs measuring family harmony with arithmetic mean (\bar{x}), standard deviation (s), statistical significance (p -value) and effect sizes (d -value).

3.10.1 Relationship between family involvement and the constructs

Table 3.10 presents the relationship between the demographic variable, family involvement, and the constructs measuring family harmony.

Table 3.10: Relationship between family involvement and the constructs

Construct	Active			Inactive			Comparison	
	n	\bar{x}	s	n	\bar{x}	s	p-value	d-value
Open communication	81	5.877	0.885	39	5.637	1.144	0.209	0.21
Mutual trust and respect	81	6.259	0.786	39	6.128	0.963	0.428	0.14
Conflict	81	5.556	1.196	39	5.713	0.970	0.477	0.13
Family commitment	81	6.318	0.808	39	6.106	1.014	0.219	0.21
Personal needs alignment	81	5.832	1.117	39	5.239	1.031	0.006	0.53
Fairness	81	5.917	0.853	39	5.713	0.995	0.248	0.20
Leadership	81	6.089	0.800	39	5.883	1.109	0.249	0.19
Governance	81	4.340	1.438	39	4.368	1.428	0.918	0.02
Division of labour	81	5.485	1.034	39	5.300	1.176	0.382	0.16
Inactive family members	81	5.836	1.177	39	5.903	0.969	0.757	0.06
Non-family members	81	4.642	1.410	39	4.594	1.530	0.864	0.03
Senior generation of family members	81	5.874	0.910	39	5.584	1.162	0.139	0.25
Financial performance	81	5.940	0.985	39	5.705	1.258	0.266	0.19

- **Statistical significant differences (p-values)**

The involvement variables (active and inactive) of family members in the business have a small effect on only one construct, where the constructs have p-values ($p\text{-value} < 0.05$); that of personal needs ($p\text{-value} = 0.006$). None of the other constructs have p-values ($p\text{-value} < 0.05$), thus there are no practical significant differences of active and inactive family members' perceptions of the constructs.

- **Practical significant differences (d-values)**

Based on Cohen's guidelines the involvement variables (active and inactive) had no practical significant effect on any of the different constructs of family harmony. The constructs with small effects ($d\text{-value} > 0.2$) is that of fairness ($d\text{-value} = 0.20$), both family commitment and open communication ($d\text{-value} = 0.21$), senior generation family members ($d\text{-value} = 0.25$), only one construct had a medium effect, that of personal needs of family members ($d\text{-value} = 0.53$). There is, however, no practical significant difference between the perceptions of those family members who are actively involved and those who are inactively involved in the family businesses, since none of the other constructs have d-values close to ($d\text{-value} = 0.80$).

3.10.2 Relationship between highest academic qualification and the constructs

The relationships between the demographic variable, highest academic qualification, and the constructs measuring family harmony are presented in Table 3.11.

- **Statistical significant differences (p-values)**

Table 3.11 indicates that the demographic variable, highest academic qualification, qualification (\leq matric and $>$ matric) of family members in the business have a small effect on three constructs, where the constructs have p-values ($p\text{-value} < 0.05$); that of family commitment ($p\text{-value} = 0.017$), non-family members ($p\text{-value} = 0.045$) and

financial performance ($p = 0.030$). None of the other constructs have p-values ($p\text{-value} < 0.05$), thus there are no significant differences between the perceptions of those family members with a highest qualification of matric or lower and those who have some form of tertiary education after matric.

Table 3.11: Relationship between highest academic qualification and the constructs

Construct	\leq Matric			$>$ Matric			Comparison	
	n	\bar{x}	s	n	\bar{x}	s	p-value	d-value
Open communication	45	5.633	1.061	69	5.864	0.936	0.225	0.22
Mutual trust and respect	45	6.001	1.062	69	6.322	0.672	0.050	0.30
Conflict	45	5.488	1.237	69	5.626	1.066	0.528	0.11
Family commitment	45	5.996	1.091	69	6.408	0.717	0.017	0.38
Personal needs alignment	45	5.534	1.287	69	5.742	1.021	0.339	0.16
Fairness	45	5.714	1.065	69	5.973	0.772	0.134	0.24
Leadership	45	5.861	1.054	69	6.091	0.823	0.197	0.22
Governance	45	4.266	1.394	69	4.360	1.504	0.738	0.06
Division of labour	45	5.506	1.162	69	5.374	1.046	0.530	0.11
Inactive family members	45	5.622	1.240	69	6.007	1.033	0.075	0.31
Non-family members	45	4.283	1.359	69	4.827	1.424	0.045	0.38
Senior generation of family members	45	5.632	1.139	69	5.887	0.910	0.189	0.22
Financial performance	45	5.659	1.161	69	6.082	0.891	0.030	0.36

- **Practical significant differences (d-values)**

Based on Cohen's guidelines the variables qualification (\leq matric and $>$ matric) had no practical significant effect on any of the different constructs of family harmony. There are no constructs with medium differences since all the constructs' d-values are ($d\text{-value} < 0.5$). There are, however, nine constructs with a small difference, where the d-values ($d\text{-value} > 0.2$) is that of open communication, senior generation family members and

leadership (d-value = 0.22) respectively, mutual trust and respect (d-value = 0.30), both family commitment and non-family members (d-value = 0.38) respectively, fairness (d-value = 0.24), non-active family members (d-value = 0.31) and financial performance (d-value = 0.36). The abovementioned are only small differences since all the construct's d-values are between ($0.2 < \text{d-value} < 0.5$). The effect, however, can not be regarded as a medium effect since none of the construct's d-values are too close to (d-value = 0.50). It could also therefore not be regarded as a practical significant difference between the perceptions of those family members with a highest qualification of matric or lower and those who have some form of tertiary education after matric.

3.10.3 Relationship between age groups and the constructs

Table 3.12 presents the relationship between the demographic variable, age group, and the constructs measuring family harmony.

Table 3.12: Relationship between age groups and the constructs

Construct	≤ 40 years			> 40 years			Comparison	
	n	\bar{x}	s	n	\bar{x}	s	p-value	d-value
Open communication	56	5.670	0.992	64	5.913	0.960	0.176	0.24
Mutual trust and respect	56	6.114	0.903	64	6.306	0.788	0.218	0.21
Conflict	56	5.470	1.156	64	5.727	1.094	0.213	0.22
Family commitment	56	6.175	0.932	64	6.315	0.837	0.390	0.15
Personal needs alignment	56	5.363	1.096	64	5.882	1.094	0.011	0.47
Fairness	56	5.747	0.946	64	5.942	0.859	0.238	0.21
Leadership	56	5.884	0.996	64	6.143	0.821	0.121	0.26
Governance	56	4.126	1.445	64	4.545	1.396	0.109	0.29
Division of labour	56	5.257	1.146	64	5.572	1.005	0.112	0.27
Inactive family members	56	5.616	1.261	64	6.070	0.917	0.025	0.36
Non-family members	56	4.383	1.473	64	4.839	1.395	0.085	0.31
Senior generation of family members	56	5.596	1.114	64	5.941	0.872	0.060	0.31
Financial performance	56	5.758	1.230	64	5.956	0.933	0.321	0.16

- **Statistical significant differences (p-values)**

The age variables (≤ 40 years and > 40 years) of family members in the business have a small effect on two constructs, where the constructs have p-values (p-value < 0.05); that of personal needs (p-value = 0.011) and inactive family members (p-value = 0.025). None of the other constructs have p-values (p-value < 0.05), thus there are no differences regarding the p-values.

- **Practical significant differences (d-values)**

Based on Cohen's guidelines the age variables (≤ 40 years and > 40 years) had no practical significant effect on any of the different constructs of family harmony. The only

construct with a d-value ($d\text{-value} > 0.2$) is that of personal needs of family members ($d\text{-value} = 0.47$), the effect, however, is a medium effect since it is very close to ($d\text{-value} = 0.50$), but it could not be regarded as a practical significant difference between the perceptions of those family who are 40 years and younger and those who are older than 40 years of age.

3.10.4 Relationship between gender and the constructs

Table 3.13 shows the relationship between the demographic variable, gender, and the constructs measuring family harmony.

- **Statistical significant differences (p-values)**

No practical significant differences exist between the perceptions of male and female respondents towards the different constructs' contribution towards family harmony, since none of the constructs had p-values smaller than 0.05 (refer to Table 3.13).

- **Practical significant differences (d-values)**

The only construct with a small effect d-value ($d\text{-value} > 0.2$) is that of non-active family members ($d\text{-value} = 0.21$), the effect, however, is very small and could thus not be regarded as a practical significant difference between the perceptions of male and female family members regarding the different constructs' contribution towards family harmony.

Table 3.13: Relationship between gender and the constructs

Construct	Male			Female			Comparison	
	n	\bar{x}	s	n	\bar{x}	s	p-value	d-value
Open communication	59	5.818	0.929	61	5.781	1.031	0.836	0.04
Mutual trust and respect	59	6.296	0.689	61	6.140	0.973	0.315	0.16
Conflict	59	5.608	1.101	61	5.606	1.158	0.992	0.00
Family commitment	59	6.291	0.756	61	6.210	0.993	0.619	0.08
Personal needs alignment	59	5.720	1.084	61	5.562	1.159	0.442	0.14
Fairness	59	5.836	0.863	61	5.865	0.946	0.862	0.03
Leadership	59	6.028	0.774	61	6.017	1.035	0.950	0.01
Governance	59	4.362	1.417	61	4.337	1.452	0.923	0.02
Division of labour	59	5.403	1.038	61	5.446	1.128	0.831	0.04
Inactive family members	59	5.983	1.052	61	5.737	1.159	0.228	0.21
Non-family members	59	4.489	1.469	61	4.759	1.419	0.308	0.18
Senior generation of family members	59	5.874	0.881	61	5.689	1.108	0.314	0.17
Financial performance	59	5.822	1.053	61	5.904	1.116	0.681	0.07

3.11 RELATIONSHIP BETWEEN THE DEMOGRAPHIC VARIABLES AND THE DEPENDENT VARIABLE, FAMILY HARMONY

The relationship between the demographic variables and the dependent variable, **Family harmony**, is presented in Table 3.14 on the next page.

Table 3.14: Relationship between the demographic variables and the dependent variable, family harmony

Classification	n	\bar{x}	s	p-value	d-value
Family involvement					
Active family members	81	6.324	0.901	0.417	0.15
Inactive family members	39	6.176	1.006		
Highest academic qualification					
≤ Matric	45	6.055	1.146	0.069	0.29
> Matric	69	6.385	0.776		
Age group					
≤ 40 years	56	6.177	1.005	0.277	0.19
> 40 years	64	6.363	0.867		
Gender					
Male	59	6.336	0.808	0.495	0.11
Female	61	6.219	1.046		

- **Statistical significant differences (p-values)**

No statistical significant differences exist between the four demographical variables towards the dependent variable, **Family harmony**, because none of the demographical variables tested had p-values smaller than 0.05.

- **Practical significant differences (d-values)**

The only demographical variable with a small effect d-value (d-value > 0.2) is that of highest academic qualification (d-value = 0.29). The effect, however, is small and could thus not be regarded as a practical significant difference.

3.12 RELATIONSHIP BETWEEN THE DEMOGRAPHIC VARIABLES AND THE CONSTRUCT, PERCEIVED FUTURE CONTINUITY

The relationship between the demographic variables and the construct, **Perceived future continuity**, is presented in Table 3.15.

Table 3.15: Relationship between the demographic variables and the construct, perceived future continuity

Classification	n	\bar{x}	s	p-value	d-value
Family involvement					
Active family members	81	5.924	0.878	0.227	0.21
Inactive family members	39	5.700	1.074		
Highest academic qualification					
≤ Matric	45	5.683	1.002	0.047	0.35
> Matric	69	6.033	0.848		
Age group					
≤ 40 years	56	5.628	1.031	0.015	0.41
> 40 years	64	6.047	0.827		
Gender					
Male	59	5.884	0.847	0.716	0.06
Female	61	5.82	1.042		

- **Statistical significant differences (p-values)**

Only two demographical factors have p-values smaller than ($p < 0.05$), that of highest academic qualification (p-value = 0.047) and age group (p-value = 0.015). These differences, is thus statistical significant ($p < 0.05$).

- **Practical significant differences (d-values)**

The only demographical variable with a d-value close to a medium effect (d-value = 0.5) is that of age group (d-value = 0.41), and to a lesser extent that of highest academic qualification with (d-value = 0.35). The effect, however, could not be regarded as practical significant, since none of the demographical variable perceptions towards perceived future continuity have d-values close to (d-value = 0.8).

3.13 SUMMARY

The empirical study was conducted by means of a field study using a structured questionnaire as the main component. The purpose of the literature review was to gain insight and align the determinants of family harmony in family businesses according to a structured questionnaire developed by Prof Elmarie Venter (NMMU), Ms Shelly Farrington (Van Eeden) (NMMU) and Dr Stephan van der Merwe (NWU). All thirteen constructs in the questionnaire were applicable to both active and inactive family members. Only Section C (refer to Appendix A) of the active family member questionnaire was applicable for the senior generation executive manager, to supply the family business information. The data collected from the completed questionnaires were processed by the Statistical Consultation Services at the North-West University using Statistica and SPSS.

Chapter three presented and analysed the empirical results of this study. This chapter comprised of an introduction, the process to gather the data, the development and construction of the questionnaire, data collection, responses to the survey, the results and analysis of the biographical and family business information, the reliability of the questionnaire, the evaluation of the constructs determining family harmony, an evaluation of the construct perceived future continuity, the correlation between family harmony and the constructs, the relationship between the demographic variables and the constructs, the relationship between the demographic variables and the dependent

variable (family harmony), and lastly, the relationship between the demographic variables and perceived future continuity.

A total of 102 questionnaires for active family members and 59 questionnaires for inactive family members were sent out to 30 family businesses in the Potchefstroom area of the Tlokwe Municipality. Each of the 161 questionnaires was sent out with a covering letter that guaranteed the confidentiality of the responses. Three weeks time was given for the participants to complete the questionnaire. After three weeks the family businesses were visited to collect the completed questionnaires. A total of 120 questionnaires were collected, this comprises of 81 questionnaires for active family members and 39 questionnaires for inactive family members (refer to paragraph 3.4.1).

The statistical analyses of the data comprised of the following; the Cronbach alpha coefficients (refer to Table 3.7), the mean (\bar{x}) (refer to Table 3.8), the standard deviation (s) (refer to Table 3.8), the coefficient of correlation (r) (refer to Table 3.9), the coefficient of determination (R^2) (refer to Table 3.9), statistical significance differences (p-values) (refer to Table 3.10 – 3.15) and effect sizes (d-values) (refer to Table 3.10 – 3.15).

The reliability of the questionnaire was determined by means of the Cronbach alpha coefficient of each of the constructs. None of the constructs' Cronbach alpha coefficients were lower than the routine cut-off value of 0.70. This suggests that the questionnaire used in this study to measure the latent constructs has acceptable reliability and can be accepted as internally consistent.

The evaluation of the constructs determining family harmony was discussed in paragraph 3.7 and revealed that the average score range between ($\bar{x} = 6.250$) for the construct **Family commitment** and ($\bar{x} = 4.350$) for the construct **Governance**. This indicates a high level of agreement with the statements / items concerned with family commitment and a relatively low agreement with the statements / items concerned with corporate governance.

The evaluation of the construct **Perceived future continuity** was discussed in paragraph 3.8 and revealed an average score of ($\bar{x} = 5.852$) for the construct. The coefficient or correlation for this construct **Perceived future continuity** in relationship with the construct, **Family harmony**, was calculated at $r = 0.639$, which indicates a relatively strong linear relationship between the construct and family harmony.

The correlation between family harmony and the constructs were discussed in paragraph 3.9 and revealed that based on Cohen's rules, it is evident that the independent variables, **Non-family members** ($r = 0.313$), **Governance** ($r = 0.392$) and **Inactive family members** ($r = 0.465$) have a medium effect on the dependent variable, **Family harmony**. The rest of the independent variables (refer to table 3.9), however, have a large or practical significant effect ($r > 0.50$) on the dependent variable, **Family harmony**.

The relationship between the demographic variables and the independent variables were discussed in paragraph 3.10 and revealed that no practical significant differences exist between the demographic variable and the constructs and only two visible differences were detected.

The relationship between the demographic variables and the dependent variable, **Family harmony**, were discussed in paragraph 3.11 and revealed that no practical significant differences exist between any of the demographic variables and family harmony.

The relationship between the demographic variables and the construct, **Perceived future continuity**, were discussed in paragraph 3.12 and revealed that no practical significant differences exist between any of the demographic variables and the construct.