

**A STUDY TO INVESTIGATE AND  
QUANTIFY THE VALUE ADDED BY HOME  
OWNER ASSOCIATIONS TO RESIDENTIAL  
DEVELOPMENTS OF MORELAND  
DEVELOPMENTS (PTY) LTD FOCUSING  
PRIMARILY ON THE AREA NORTH OF  
DURBAN**

BY

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**A dissertation presented to the Graduate School of Business, University  
of Natal (Durban), in partial fulfilment of the requirements for the degree  
of Master of Business Administration**


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**June 2002**

## **DECLARATION**

I, Gregory Gnasegran Veerasamy, hereby declare that :

- The work in this report is my own original production
- All sources used or referred to have been documented and recognised
- This report has not been previously submitted in full or partial fulfilment of the requirements for an equivalent, or higher, qualification at any other recognised educational institution.



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096636

30<sup>th</sup> June 2002

Date

## **ACKNOWLEDGEMENTS**

I would like to thank the following people: -

- Professor Elza Thomson, my supervisor, for her helpful guidance and encouragement in the preparation for this thesis.
- Professor Jeff McCarthy of the University of Durban-Westville for his generosity, enthusiasm, guidance, encouragement, constructive advice and for being a sounding board for thoughts and ideas. I will be eternally grateful to you.
- Moreland Management, especially Mr David Jollands, for sponsoring and supporting me for the duration of the MBA and for this thesis especially.
- Amanda Perl, Robyn Nagle, Dawn Their and Clifford J. Treese from various chapters of the Community Association Institute (USA).
- My beloved parents, Soobrie and Saundrie Veerasamy, and my sister, Vanessa, for their unwavering support and encouragement and for helping me shape my destiny.
- My wife, Resheen, for her support, encouragement, motivation and her belief and faith in my capabilities and potential. You are my pillar of strength and my one true soul mate.
- My daughter, Serena Shivani, - there is something about you that I cannot put into words. You are my pride and joy.
- My most sacred gratitude to God for inspiration strength, support and enlightenment when times were challenging and for giving me a spiritual base which has immortalised my soul.

## **EXECUTIVE SUMMARY**

The Residential Department at Moreland Developments (Pty.) Ltd. (Moreland), the property development arm of the Tongaat-Hulett Group (THG), has for some time questioned the benefits of setting up and maintaining Home Owner Associations (HOAs) for the residential suburbs that they develop.

This concern is a consequence of the significant time and cost incurred in setting up and maintaining these associations with very little perceived added value.

The intention of this study is to quantify this added value (if it exists) and in so doing, assist management in matching the right product in the right market with the right price.

In an effort to try to understand the concept of added value, the writer has chosen a theoretical framework on which to base the research methodology. The writer has used Michael Porter's Value Chain system as this theoretical foundation. The Value Chain disaggregates the various value-adding activities a company performs and establishes which value-creating activities lead to sustainable competitive advantage.

This study develops Moreland's Value Chain and enables the writer to hone in on the value creating activity of setting up and maintaining HOAs.

A scientific approach is adopted in the research design. A stratified disproportionate random sample was used because of its greater statistical efficiency. A sample size of 93 were interviewed telephonically using a standardized questionnaire containing a mixture of structured and unstructured questions. The five projects chosen were Broadlands, Somerset Park, Gardens, Mount Edgecombe Country Club Estate (MECCE) and Zimbali.

Both descriptive and analytical statistical analyses were performed on the 93 data sets. The data shows that the main drivers of value within a HOA are security, architecture, landscaping, general environmental upkeep and maintenance, communication and rules and regulations.

In Broadlands and Somerset Park, the main drivers of value at the time of purchase and presently are architectural theme and rules and regulations. For Gardens, MECCE and Zimbali, the main drivers of value at the time of purchase and presently are security and architectural theme.

The research objectives were reduced to two hypotheses, which were tested at the 95% level of confidence :-

Hypothesis 1 : *The presence of a HOA has no effect on the decision to purchase vacant land.*

This hypothesis was not rejected for Broadlands but rejected for the remaining projects as well as for the full population. Judging from the confidence intervals for the project means, it is evident that the presence of a HOA had a positive effect on the decision to purchase in all projects (except Broadlands) and for the full population.

Hypothesis 2 : *The presence of a HOA will not allow Moreland to command a price premium on the sale of vacant land.*

This hypothesis is rejected for all projects as well as for the full population implying that Moreland can charge a price premium on the sale of vacant land. The only limitation is that the Broadlands price premium cannot, in real terms, be charged as Hypothesis 1 was accepted for Broadlands, as prospective purchasers perceived value but are unwilling to pay for it.

The price premium that could be achieved for the projects are as follow :-

Somerset Park	-	4%	to	20%
Gardens	-	1%	to	17%
Mecce	-	16%	to	45%
Zimbali	-	13.5%	to	24.5%

Further analysis revealed that when the added value items of HOA are tested against the project, the location of the project is the prime driver of value. However, when security is tested against the project, the project value subordinates to the security effect indicating that security is the only added value item that is more important than location.

The writer has made two recommendations to Moreland. The first is that immediate withdrawal from the Broadlands Home Owners Association is necessary as the value created by the establishment of a HOA is not captured, either in full or in part, by Moreland. The second is that Moreland restructure its commitment to the other HOAs in line with the quantified added value ranges.

There is no doubt that this work greatly enhances the existing, very limited, body of knowledge on this subject area in South Africa. It is hoped that future research students will expand the existing body of knowledge by future investigating the issues that have limited this study.

## CONTENTS

### Page

Title	i
Declaration	ii
Acknowledgements	iii
Executive Summary	iv

### CHAPTER 1 : INTRODUCTION

1.1	Introduction	1
1.2	Background	2
1.3	Motivation for the Study	8
1.4	Importance / Benefit of the Study	9
1.5	Objectives Of Project	9
1.6	Limitations Of Research	10
1.7	Structure Of Research	12
1.8	Summary	13

### CHAPTER 2 : THEORETICAL BASIS OF PROJECT

2.1	Introduction	14
2.2	Theory on Value Creation	15
2.3	The Value Chain	17
2.4	Application of Theory to Moreland	26
2.5	Summary	33

### CHAPTER 3 : RESEARCH METHODOLOGY

3.1	Introduction	34
3.2	Research Process	35
3.3	Research Design	36
3.4	Sampling	38
3.5	Research Instrument	39
3.6	Statistical Methods	44
3.7	Ethics in Research	45
3.8	Summary	46

### CHAPTER 4 : REPORTING AND DISCUSSION OF RESULTS – DESCRIPTIVE STATISTICAL ANALYSIS

4.1	Introduction	48
4.2	Discussion of Results	48
4.3	Summary	68

## **CHAPTER 5 : REPORTING AND DISCUSSION OF RESULTS – ANALYTICAL STATISTICAL ANALYSIS**

5.1	Introduction	70
5.2	Distribution Types	71
5.3	Confidence Intervals	73
5.4	Hypothesis Testing	78
5.5	Coleman Technique	82
5.6	Summary	89

## **CHAPTER 6 : RECOMMENDATIONS AND CONCLUSIONS**

6.1	Introduction	92
6.2	Conclusion	94
6.3	Recommendations	97

<b>REFERENCES</b>	98
-------------------	----

<b>BIBLIOGRAPHY</b>	99
---------------------	----

## **APPENDIX**

A1	Questionnaire	A1
A2	Summary of Data (6 sheets)	A2

## **LIST OF TABLES**

Table 3.1 – Sample Stratification	39
Table 5.1 – Hypothesis Test 1 – Results summarised	79
Table 5.2 – Hypothesis Test 2 – Results summarised	81
Table 5.3 – Coleman Effects for Project, Income and Architectural Theme	83
Table 5.4 – Coleman Effects for Project, Income and Landscaping	85
Table 5.5 – Coleman Effects for Project, Income and Environment	86
Table 5.6 – Coleman Effects for Project, Income and Communications	86
Table 5.7 – Coleman Effects for Project, Income and Rules and Regulations	87
Table 5.8 – Coleman Effects for Project, Income and Security	88

## **LIST OF FIGURES**

Figure 1.1 – Typical organogram of HOA structure	5
Figure 2.1 – Typical Company Value Chain	19
Figure 2.2 – Strategic Clock	22
Figure 2.3 – Industry Value Chain	25
Figure 2.4 – Moreland Value Chain	28
Figure 2.5 – HOA Value Chain	32
Figure 4.1 – Graph of Land Price and Site Extent	48
Figure 4.2 – Graph showing previous knowledge of HOA	50
Figure 4.3 – Graph of decision to purchase affected by presence of HOA	51
Figure 4.4 – Graph of Value of Investment	52



Figure 4.5 – Graph showing Percentage Value due to HOA	54
Figure 4.6 – Graph showing Added Value constructs – Presently	55
Figure 4.7 – Graph showing Age Distribution	56
Figure 4.8 – Graph showing Income Distribution	57
Figure 4.9 – Graph showing next purchase in HOA environment	58
Figure 4.10 – Graph showing added value constructs for future investments	59
Figure 4.11 – Scatter plot of Decision to Purchase and Percent at Purchase	60
Figure 4.12 – Scatter plot of Decision to Purchase and Percent Value Currently	61
Figure 4.13 – Scatter plot of Income Band and Percentage Value at Purchase	62
Figure 4.14 – Scatter plot of Income Band and Current Value of HOA	62
Figure 4.15 – Scatter plot showing current and perceived value at purchase	63
Figure 4.16 – Scatter plot showing Land Price and Site Extent	64
Figure 4.17 – Scatter Plot of Land Price and Market Value	65
Figure 4.18 – Scatter Plot of Land Price and Enhanced Value	65
Figure 4.19 – Scatter plot of Market Value and Enhanced Value	67
Figure 4.20 – Scatter plot of Market Value and Construction Cost	67
Figure 5.1 – Frequency Distribution for Full Sample	72
Figure 5.2 – Frequency Distribution for Sub-Samples	73
Figure 5.3 – Confidence Int. for Sample and Population mean – Hypothesis 1	75
Figure 5.4 – Confidence Int. for Sample and Population mean – Hypothesis 2	75
Figure 5.5 – Confidence Int. for Sample and Population Std. Dev.-Hypothesis 1	76
Figure 5.6 – Confidence Int. for Sample and Population Std. Dev.-Hypothesis 2	77

## ABBREVIATIONS

<b>THG</b>	:	Tonga-at-Hulett Group
<b>THS</b>	:	Tonga-at-Hulett Sugar
<b>HOA</b>	:	Home-Owners Association
<b>MA</b>	:	Management Association
<b>CA</b>	:	Community Association
<b>MECCEMA</b>	:	Mount Edgecombe Country Club Estate Management Association
<b>ZEMA</b>	:	Zimbali Estate Management Association
<b>GLLRMA</b>	:	Gardens, La Lucia Ridge Management Association
<b>SPHOA</b>	:	Somerset Park Home Owners Association
<b>BHOA</b>	:	Broadlands, Mount Edgecombe, Home Owners Association

# CHAPTER 1 – INTRODUCTION

## 1.1 Introduction

Moreland Developments (Pty) Ltd (Moreland) spends a significant amount of time and money in establishing and maintaining Home Owners Associations (HOAs). The value derived by Moreland and to home-owners are, to date, not quantified and therefore cannot be benchmarked. The intention of this research is to try and quantify this concept of “added value” in an effort to establish if the time and costs involved are commensurate with the value derived by the presence of the Association.

To understand these concepts further, this chapter will set the scene for the management dilemma to be solved. The necessary background material will be presented to assist in understanding the nature of the dilemma. The reason for the study, its importance, its limitations and objectives will complete this chapter.

Once the added value is quantified, Moreland will be in a position to restructure its commitments to the various HOAs in line with the quantity of added value. This will result in a more efficient use of Moreland’s resources which will assist the company in achieving its overall corporate objectives. Furthermore, once the added value is quantified, the pricing of future residential property can be adjusted accordingly to incorporate a price premium for this added value.

To resolve the management dilemma, a scientific approach will be adopted. A theoretical framework based on the value chain of Michael Porter will be used to analyse the concept of added value.

The data will be obtained using telephonic interviews of home-owners within current HOAs and this data will be analysed using both descriptive and inferential statistics.

Based on the outcome of the above analysis, recommendations and conclusions will be made with a specific level of confidence. The data and insight received on this subject will greatly enhance the miniscule body of knowledge on this subject area.

## **1.2 Background**

### **1.2.1 Moreland**

Moreland is the property development arm of the Tongaat-Hulett Group Ltd (THG), a Johannesburg and London listed diversified conglomerate. As recently as 5 years ago, THG had the following subsidiaries (industry type indicated in brackets): Corobrick (bricks and related products), Tongaat-Hulett Sugar (sugar), Whiteheads (textile), Starch and Glucose (related sugar products), Tongaat Food Distributors (food distribution), Hulett Aluminium (aluminium) and Moreland (property).

Moreland is responsible for the realisation of value of the groups extensive land assets. Moreland's core business is the development of land (predominantly owned by the Group) and the subsequent sales of this vacant land. Moreland is not involved in the construction of top structures except in the controlling of the aesthetic form of the finished buildings.

Moreland develops land for the residential, commercial and industrial markets. The scope of Moreland's business is neither narrow nor broad. A large portion of the development process is performed within Moreland and this includes the financial, marketing, human resources, planning management, project management and sales management functions. The remaining functions are contracted out to the consultants (planning, engineering, landscaping, environment), contractors (engineering and to a lesser extent building) and agents (sales).

### 1.2.2 The Development Process

Moreland purchases land strategically chosen for development, at market rates, from Tongaat-Hulett Sugar (THS). The choice of development on the land is dictated by a spatial development plan which is accepted the Local Authority of the area. The town planning department within Moreland engage the services of a town planning consultant who creates, with input from Moreland, a sub-divisional plan which is submitted to the Local Authority and to the Private Townships Board (PTB). The PTB is informed that a Home Owners Association (HOA) is to be established for that project. This ensures that membership to the Association will become entrenched into the deeds of title of the individual sites when these sites are transferred to the first owner. Subsequent purchases of the sites are also obliged to become HOA members, as it is a deed of title condition.

Once approval is granted by the Local Authority and the PTB, and assuming that the project feasibility is accepted by the Moreland Board of Directors, the project goes out to tender for the construction of the relevant services, often on a phased basis. The engineering consultants are responsible for the design, contract administration and contract monitoring of the civil engineering contractor.

Once Board approval has been granted, the marketing of the project is also commenced. All projects are branded and fall into one of two branding categories within Moreland i.e. Signature Projects and Select Projects.

Once the civil engineering contractor has completed the installation of the various services, the sales are commenced either by Moreland sales managers or by external sales agencies.

### 1.2.3 HOA Establishment

It is at this stage that the concept of Home Owners Association (HOA) or Management Associations (MA) is introduced to the prospective purchaser. From this point on, the writer will use the term Home Owners Association to mean both HOA & MA.

HOAs are Section 21 companies (not for gain) in terms of the Companies Act No 61 of 1973 (as amended). They are similar to Body Corporates, but exist on a larger scale, acting over a whole community rather than over a small number of units.

By virtue of purchasing a site from Moreland, the purchaser automatically becomes a member of the relevant HOA. Even if the site is on-sold, the second (or subsequent) purchaser is obliged to become a member of the HOA.

The purposes for establishing Associations are:

- So that the community issues can be addressed holistically
- A formal (legal) structure is in place to address issues of common concern to members within the community
- To administer, maintain and control the architectural language prescribed for that community / township
- To establish, structure and maintain a policy of uniformity and happy co-existence.

The HOAs are structured in a similar way both in the Residential Department, Industrial Department and Commercial Department. The study will be restricted to HOAs that fall under the Residential portfolio. Senior management of these HOAs usually consists of Directors from both the community and from Moreland. Directors of the HOA from Moreland are not necessarily Moreland Directors and will be from hereon described as "Moreland" Directors. The Articles of Associations are designed to ensure that

during the “development” period, the number of “Moreland” Directors exceed the number of Resident Directors, and that the HOA can only be chaired by a “Moreland” Director. Management of the HOA also consists of the Chairmen of the various committees viz. Finance, Security, Environment, Public Relations and Planning and Aesthetics. A managing agent is appointed to perform the administration for the HOA. An organogram of a typical Moreland HOA structure is indicated in Figure 1.1 below.

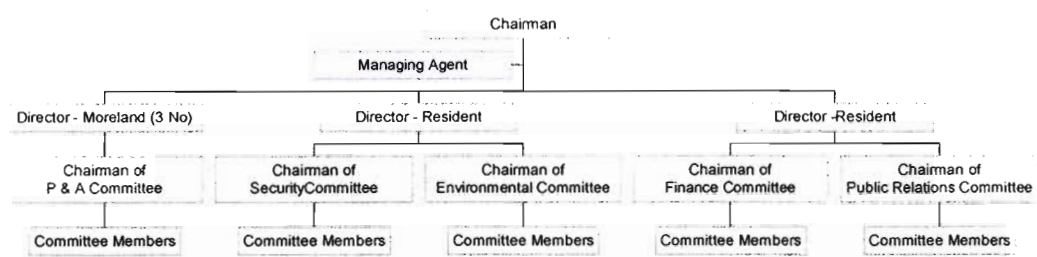


Figure 1.1 – Typical Organogram of HOA Structure

Every member of the Association is obliged to pay a levy (payable monthly or annually), which goes toward the operating expenses of the HOA and also to some significant project that the area requires. The purpose of the significant project is to ensure that the community acquires some benefit and that the levy is not paid to merely “run” the Association. It would be pointless to pay a levy that would cover only the general administration.

It must be noted that the resident Directors, Chairmen of Subcommittees and members of Subcommittees are homeowners who dedicate their free time and expertise to ensure that all residents can enjoy the benefits of the community. It is an enormous job with immense responsibility.

1.2.4 Current Status

The Residential portfolio of Moreland currently has many HOAs that are in various stages of development. The more mature associations [Mount Edgecombe Country Club Estate Management Association (MECCEMA), Zimbali Estate Management Association (ZEMA) and Gardens, La Lucia

Ridge Management Association (GLLRMA)] appear to be running well with home-owners volunteering their time in helping the HOA achieve its objectives, timeous payment of the levy and abiding by the rules and regulations prescribed by the HOA. The other HOAs are at different stages in development and do not enjoy the same level of support as the MECCEMA, ZEMA and GLLRMA HOAs. The Somerset Park Home Owners Association (SPHOA) and Broadlands, Mount Edgecombe, Home Owners Association (BHOA) are finding difficulty in achieving member cooperation and commitment and therefore levy payment is not forthcoming. Some HOAs are struggling against financial ruin as levies, even though small in relative terms, are not being paid.

The common reason for lack of member cooperation and commitment and levy non-payment is that the members do not see any value in the HOA. This is Moreland's management dilemma as significant time and costs are incurred in setting up and maintaining these associations, although there appears to be very little perceived added value.

#### 1.2.5 Other HOAs

HOAs is a fairly new concept in South Africa, unlike in the United States of America (US) where, Community Associations (CA) as they are known, number 230 000 to date with a membership of 47 million unit owners. This represents 15% of all US households. This is a growing trend as 50% of all new homes built in major metropolitan areas fall within CAs.

The associations covered under the umbrella term CAs have a variety of names viz homeowners associations, property owners associations, condominium association, corporative, common interest community, or council of co-owners.

In the US, CAs are viewed as different from traditional forms of home ownership for three reasons:

- Members share ownership of common land & have access to facilities that are often not affordable to the individual.
- Membership is obligatory and members are bound to and must abide by the associations rules and restrictions and
- A levy (known as an assessment) is payable

In a study undertaken in the US in 1999, it was found that 40% of the homeowners would not consider selling their house even if given 15% above the market value and 75% are extremely satisfied with their CA. This indicates a high degree of satisfaction. Furthermore, 85% of homeowners felt that property values in their community are rising. It is also interesting to note that the most common reason for not living in a CA was that there was not a CA that was near enough for the respondents to live in.

The CA factbook indicates that CAs provides a variety of services including maintaining common areas, managing recreational amenities and providing services to the residents. It also notes that CA's help protect property values by ensuring compliance with rules and deed restrictions.

Robyn Nagle (CED) of St Louis Metro Chapter of Community Association Institute (CAI), advises that in America, associations do not exist for vacant land (Nagle R, 2002). She further advises that land use jurisdictions (cities and countries) require the developer to create associations as part of the development process, for the purpose of ensuring maintenance of the "common" areas and/or facilities (e.g. community swimming pools, club houses, streets etc) which are owned in common by the individual owners. Individual's owners are required to join the association when they buy their lots/units. At project completion/builtout there is a transition process during which the developer relinquishes all control and involvement in the common areas to the association.



It must be born in mind that the "developer" referred to in Ms Nagle's comment is a developer that both services the vacant land and builds the top structures e.g. townhouse, houses etc.

Responses from Dawn Thier (Executive Vice President of Washington Metropolitan Chapter of the CAI) indicate that usually the road is built by a developer and is handed over to the association for maintenance and upkeep. This occurs primarily in gated communities where the road becomes private (Their D, 2002).

It is clear that the HOA concept in the US is different to the form of HOA that is used by Moreland. Fundamentally the CA in the US is not created for vacant land. The use, therefore, of research done in the US is fairly limited.

### **1.3 Motivation for the study**

The Residential Department at Moreland Developments (Pty) Ltd (Moreland), the property development arm of the Tongaat-Hulett Group, has for some time questioned the benefits of setting up and maintaining HOAs for the residential suburbs/townships that they develop.

This concern is a consequence of the significant time and costs incurred in setting up and maintaining these associations with very little perceived added value.

The intention of this study is to quantify this added value (if it exists), and in so doing, assist management in matching the right product in the right market, with the right price.

There are numerous contributors towards the construct of "added value", viz the "Moreland" brand name, the after-sales service, the establishment of HOAs, the architectural control, the holistic planning of all residential developments, development of the commercial and business hub,

development of educational facilities and general amenities. This study will be limited to the added value derived from HOAs. It must, however, be borne in mind, that the after-sales service and architectural control go hand-in-hand with these HOAs. This is because some Moreland managers serve on the Association in various capacities (thereby providing an in-built after-sales service) and secondly, Moreland managers serve on the Planning and Aesthetics Committee, which is the custodian of architectural code.

#### **1.4 Importance/Benefit of Study**

The value of this study cannot be understated. Once the enhanced value (by the presence of HOAs) can be quantified, Moreland would be able to adjust its pricing strategy to incorporate a premium price commensurate with this added value.

Furthermore, Moreland could restructure its commitment to the HOA also in line with the added value derived from the presence of the HOA. This may mean that time spent on these HOAs may need to be altered and the surplus time (if this is the case) could be spent generating new products. The extreme result could also be that the quantum of added value does not justify any investment into HOAs.

Moreland currently spends significant time and money in establishing and maintaining these HOAs and if it is established that this investment is not deriving added value, then the future of all HOAs could be in jeopardy.

#### **1.5 Objectives of Project**

The main objective of this study is to quantify (in Rand terms) the “added value” that HOAs have in Residential Property Development. Moreland management’s dilemma is that whilst significant time and costs are spent in the establishment and maintaining of these section 21 companies, the value that these HOA add to the project is not quantified and is therefore not

benchmarked. Furthermore, once this added value is quantified, the pricing of future residential property can be adjusted accordingly to incorporate a price premium for this added value.

As the study is of a causal nature, the research objectives can be restated as hypotheses. It is intended that the research objectives be stated as the following hypotheses:

$H1_0$  – The presence of a HOA has no effect on the decision to purchase vacant land.

$H1_A$  – The presence of a HOA will effect a decision to purchase vacant land

$H2_0$  – The presence of a HOA will not allow Moreland to command a price premium on the sale of vacant land.

$H2_A$  – The presence of a HOA will allow Moreland to command a price premium on the sale of vacant land.

where the subscript “O” represents the null hypotheses and the subscript “A” represents the alternative hypotheses.

## **1.6 Limitations of Research**

The fundamental limitation of the research is restricted to only five residential projects, all developed by Moreland. This is restrictive in itself as the study is geographically confined to the extent of the five projects. Furthermore inferences can only be drawn about “added value” for future phases of these projects and new projects similar to those selected only. These new projects can benefit from the outcome of this document only if these projects are in a similar geographic environment.

The research is also limited to HOAs of residential projects. This paper does not cover the lot owners and management associations of commercial and industrial projects. These associations’ added value will continue to be unquantified.

This research is also limited to results obtained from owners of special resident (SR) property. (SR is a zoning that allows only one unit on a site). Other zonings e.g. Planned Unit Development (PUD) – allowing multiple units per site (townhouses) are not covered by this research.

This was a deliberate decision for 2 reasons:-

- The site is sold to a property developer who captures some value, creates value when constructing the unit and captures value when unit is sold.
- The end user pays a levy to the body corporate of that townhouse development and a separate levy to the HOA. Both these issues add a dimension of complexity that would cloud the research.

There are many constructs that comprise “added value” but only the value derived by the presence of HOAs will be investigated. The scope of this thesis does not allow for the other constructs to be thoroughly investigated.

Another shortcoming of this study is that the sample is drawn from owners who have already purchased from Moreland. There is a small possibility, then, that the answers given on question 6 of the questionnaire could have a small margin of error as the owners have since experienced HOAs and possibly understand the concept better at the time of the interview. It would have been prudent to interview future potential purchases but the sales agencies would not part with this information for fear of Moreland transacting directly with the potential purchaser.

The biggest limitation to this study is the scarcity of information on this subject both locally and internationally. The writer has only managed to locate just one research on HOAs in South Africa and this research explores a topic that is not even remotely linked to this topic. Whilst the HOA concept is big in the US, the value derived by its presence has not been researched. Furthermore, the concept in the US is different to that in South Africa. Therefore, minimal

information can be used to add to the existing body of knowledge on this concept.

## **1.7 Structure of Research**

The structure of this thesis will follow a methodical manner to solve Moreland's management dilemma. This chapter introduces the concept of HOA and states the problem statement. Background on Moreland and its established HOAs will be discussed. Limitations of the study will also be presented which provides an opportunity for further researchers to investigate the subject material not covered by this research. This would go a long way towards expanding the existing body of knowledge on HOA in South Africa. Chapter 2 will discuss the theoretical framework on which the study is based. The value chain proposed by Michael Porter will be used as a basis of understanding the concept of added value. Moreland's value chain and a typical HOA will be presented and discussed.

Chapter 3 will deal with the scientific approach to research methodology and will cover the main aspects of research design and ethics in research.

Chapter 4 will be the first of two chapters on the discussion of results. This chapter will involve the reporting and discussion of the descriptive statistical analysis of the data obtained from telephonic interviews.

Chapter 5 is the second on the discussion of results. This chapter will involve the reporting and discussion of the inferential statistical analysis. It is here that parameters of the population are inferred from sample parameters.

Chapter 6 will comprise recommendations and conclusions derived from the scientific analysis of data in response to resolving the management dilemma at Moreland.

## 1.8 Summary

To try to quantify the value derived by the presence of HOAs, it is fundamentally important to establish if the significant time and cost spent on the creation and maintaining of the HOA is worthwhile. Moreland have been involved in HOAs for some time now and, to date, the value derived by these associations have not been quantified.

Once the added value of a HOA can be quantified, Moreland can adjust its commitment to the associations in line with this value added. This may mean that the time spent on these HOAs may need to be altered and the surplus time (if this is the case) could be spent generating new products. The extreme result could also be that the quantum of added value does not justify any investment into HOAs. Furthermore Moreland would be able to adjust its pricing strategy to incorporate a price premium commensurate with the quantity of added value.

The main objectives of the study will be treated as null hypotheses and tested statistically at a specified level of confidence. These hypotheses will either be rejected or not rejected and inference about population parameters will be made from significance of sample statistics.

Limitations of this study must not be considered as shortcomings as they represent an opportunity for future researchers to investigate issues not covered by the study and in so doing significantly enhance the existing limited body of knowledge on this subject area.

## CHAPTER 2 – THEORETICAL BASIS OF PROJECT

### 2.1 Introduction

Albert Einstein once said, “ *A theory is more impressive the greater the simplicity of its premises is, the more different kinds of things it relates, and the more extended its area of applicability.*”

Such is the nature of Michael Porter's “Value Chain Theory”. Its premises are relatively simple, it relates to various aspects of a particular business and its area of applicability extends to all business types.

No research is complete unless there is a link between theory and observation. This study is no different. The objective of this study is to try to quantify the added value derived by the presence of HOAs. The concept of added value therefore needs to be understood before it can be quantified. This is where the beauty and simplicity of Porter's Value Chain is evident. It identifies and separates the various value activities that a business performs.

The value chain is therefore chosen as the theoretical framework on which this research is based. Value is the amount buyers are willing to pay for what a firm provides them (Porter, 1985). Value is created when the cost of performing value creating activities are exceeded by the value derived from those activities.

Porter (1985) argues that value creation lies in either performing activities more effectively than competitors (i.e. lower cost) or by performing activities in a unique way that creates greater value and commands a price premium (differentiation).

The theoretical perspective of the value chain will be analysed in detail to segregate the various value-creating activities.

The theoretical model for Moreland will then be analysed and its value chain will be presented. Of the many value-creating activities, the value creation by establishing and maintaining of HOAs will be singled out. A typical HOA value chain will also be examined.

The profitability of the value creation activities depends on how well the value chain of the company compliments the buyer's value chain. In the case of a sale of the residential vacant land, the buyer is the end user and his value chain measures value by satisfaction of needs. This will be examined in greater detail.

It is from this theoretical base that the research will be approached.

## **2.2 Theory on Value Creation**

Michael Porter regarded by Kevin Cogne of McKinsey & Co as "the single most important strategist working today, and maybe of all time" has contributed greatly to the concept of value creation in business. In his masterpiece "Competitive Advantage" (1985), Porter sets a framework for analysing value creation activities of businesses. It is from this theoretical base that the concept of "added value" will be explored by the writer in an effort to quantify the value added by HOAs to the company as well as the end-user.

Competitive advantage is defined whenever a company has an edge over rivals in attracting customers and defending against competitive forces.



Competitive advantage grows out of value a company is able to create for its buyers that exceeds the company's costs of creating that value. According to Porter, value is what buyers are willing to pay and superior value stems from offering lower prices than competitors for equivalent benefits or providing unique benefits that exceed the price premium.

Porter (1985) also asserts that competitive advantage in one industry can be strongly enhanced by inter-relationships with business units competing in related industries, if these inter-relationships can be achieved. Inter-relationships among business units are the main means by which a diversified company (group of companies) creates value.

Adam Brandenburger and Barry Nalebuff (Professors at Harvard B. S. and Yale School of Management) stated in their paper on "Theory of Business" (1997) that there is a duality of value : "creating" value and "capturing" value. They contend that creating value is an inherently co-operative process and capturing value is an inherently competitive process. To create value, there needs to be an alignment of the company to its customers, suppliers, employees and many others. In this way new markets could be developed and existing ones could be expanded.

However, when companies compete with each other for market share, customers and suppliers also expect and obtain portions of the value created. Brandenburger and Nalebuff assert that "creating value that you can capture is the essence of business".

Porter (1985) agrees with the above duality and contends that industry structure determines who captures value and in what proportion. Porter explains that the threat of entry determines the likelihood that new firms will enter the industry and compete away the value, either passing it on to

the buyers in the form of lower prices or dissipating it by raising the costs of competing. The power of buyers determines the extent to which they retain most of the value created for themselves, leaving firms in an industry only modest returns. The threat of substitutes determines the extent to which some other product which can meet the same buyer needs, and thus places a ceiling on the amount a buyer is willing to pay for an industry's product. The power of suppliers determines the extent to which the value created for buyers will be appropriated by suppliers rather than by firms in an industry. Finally, the intensity of rivalry acts similarly to the threat of entry. It determines the extent to which firms already in an industry will compete away the value they create for buyers among themselves, passing it on to buyers in lower prices or dissipating it in higher costs of competing.

### **2.3 Value Chain**

Porter (1985), leading on from works by McKinsey & Co, created the concept of a value chain to disaggregate buyers, suppliers and a firm into strategically relevant discrete but inter-related activities from which value stems. Porter believed that this process was necessary in order to understand the behaviour of costs and the sources of differentiation and hence competitive advantage is gained by performing these strategically important activities more cheaply or better than its competitor.

Porter put forth that every company is a collection of activities that are performed to design, produce, market, deliver and support its product. A firm's value chain and the way it performs individual activities are a reflection of its history, its strategy, its approach to implementing its strategy and the underlying economics of these activities. By performing these activities, a company creates value for its customers.

Value is the amount buyers are willing to pay for what a firm provides them. Value is measured by total revenue, a reflection of the price a company's product commands and the units it can sell.

Clarke asserts, as Porter does, that a company is profitable if value created exceeds the collective cost of performing all of the required activities. He further argues that to gain competitive advantage over its rivals, a company must either provide comparable value to the customer, but perform activities more effectively than its competitors (lower costs) or perform activities in a unique way that creates greater value and commands a price premium (differentiation).

Porter also points out that value, instead of cost, must be used in analysing competitive position since companies often purposely raise their costs in order to command a price premium via differentiation.

"The value chain displays total value and consists of value activities and margins. Value activities are the physically and technologically distinct activities a firm performs. These are the building blocks by which a firm creates a product valuable to its buyers. Margin is the difference between total value and all the collective cost of performing the value activities." Porter (1985).

Value activities can be divided into 2 broad types, primary activities and support activities. Primary activities are those involved in the physical creation of the product and the sale and transfer to the buyer as well as after sale assistance. Support activities support the primary activities and each other by providing purchased inputs, technology, human resources and various firm wide functions.

Value activities are discrete building blocks of competitive advantage.

A typical company value chain is indicated below :

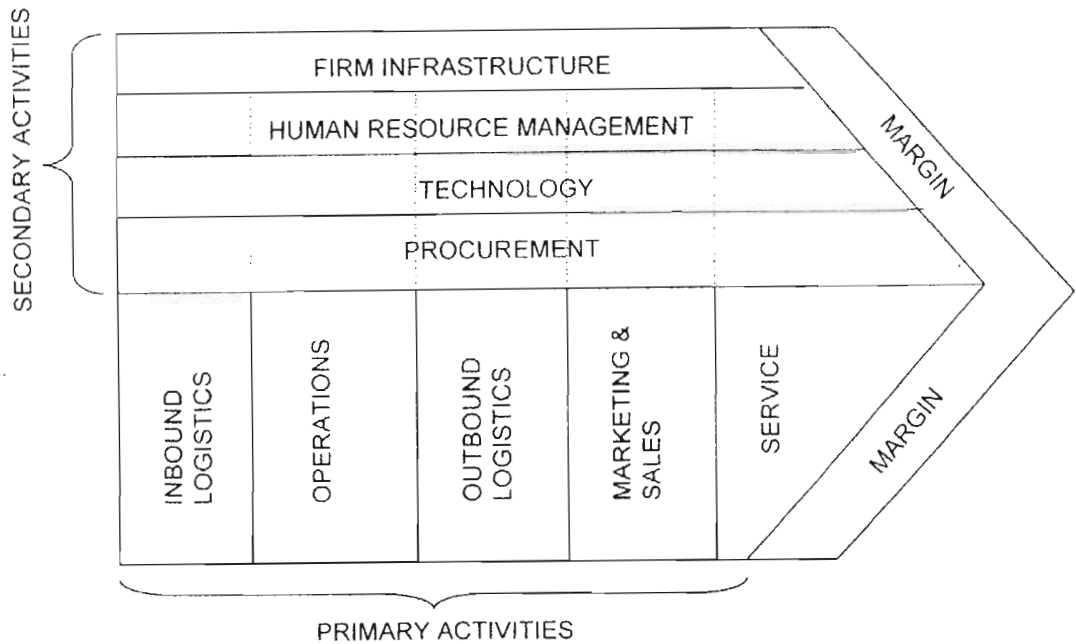


Figure 2.1 – Typical Company Value Chain

According to Porter (1985), the primary activities are:

1. Inbound Logistics - involve relationships with suppliers and include all the activities required to receive, store and disseminate inputs.
2. Operations - are all the activities required to transform inputs into outputs (products and services).
3. Outbound Logistics – include all the activities required to collect, store and distribute the output.
4. Marketing Sales - activities inform buyers about products and services, induce buyers to purchase them, and facilitate their purchase
5. Service - includes all the activities required to keep the product or service working effectively for the buyer after it is sold and delivered.

Secondary activities are:

1. Procurement - is the acquisition of inputs, or resources for the Firm
2. Human Resource Management - consists of all activities involved in recruiting, hiring, training, developing, compensating and (if necessary) dismissing or laying off personnel.
3. Technological Development - pertains to the equipment, hardware, software, procedures and technical knowledge brought to bear in the firm's transformation of inputs into outputs.
4. Infrastructure - serves the company's needs and ties its various parts together, it consists of functions or departments such as accounting, legal, finance, planning, public affairs, government relations, quality assurance and general management.

The value chain cannot be seen as a collection of independent activities but a system of inter-dependent activities. Value activities are related by linkages within the value chain. Linkages are relationships between the way one value activity is performed and the cost or performance of another.

### **Scope**

"Competitive Scope can have a powerful effect on competitive advantage because it shapes the configuration and economics of the value chain" (Porter, 1985, P53).

There are 4 dimensions of scope that effect the value chain :

- Segment Scope - The product varieties produced and buyers served

- Vertical Scope - The extent to which activities are performed in-house instead of by independent firms.
- Geographic Scope - The range of regions, countries, or groups of countries in which a firm competes with a co-ordinated strategy.
- Industry Scope - The range of related industries in which the firm competes with a co-ordinate strategy.

Broad scope can allow a company to exploit the benefits of performing more activities internally. It may allow the company to exploit interrelationships between value chains that serve different segments, geographic areas or related industries.

Narrow scope can allow the tailoring of the chain to serve a particular target segment, geographic area or industry to achieve power cost or to serve the target in a unique way.

Clark contends that developing a value chain for an organisation can be a valuable exercise as it forces the company to focus on the activities that add value from the customer perspective rather than those which simply accumulate cost. In addition to simply raising awareness, they assert that the development of a value chain should facilitate the identification of non-value adding activities. It may also allow for the identification of activities that can be outsourced to a third party.

### **Another Theory on Added Value**

Bauman and Faulkner (1997), have used Porter's value theory and generic strategies as a framework, to develop the strategic clock that is based on price and perceived added value as indicated below.

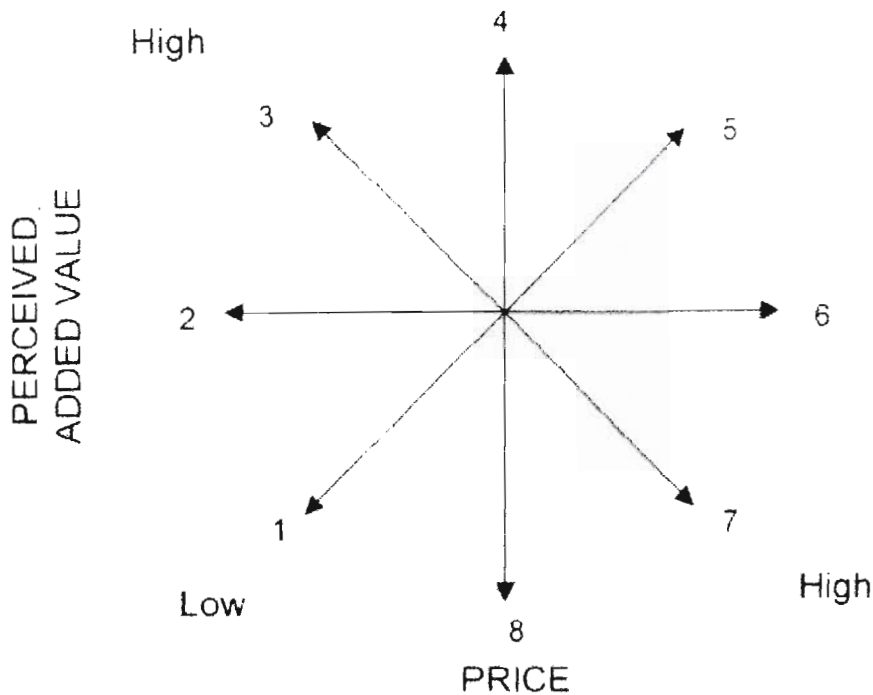


Figure 2.2 – Strategic Clock

Using Porter's low cost leadership strategy, the clock would point to position 1 as the perceived value is low. A full differentiation strategy, where premium priced items have high perceived added value would point to 5 on the clock. Positions 2, 3 and 4 are variations on Porter's generic strategies including the idea of focussed niche strategies. Direction 6, 7 and 8 are not viable strategies according to Bauman and Faulkner (1997) and Porter. Added value refers to the notion of giving something extra to the customer, above and beyond that which could be expected (e.g. higher quality, superior finish, faster delivery, greater choice, better customer service etc).

Prahaladh and Hamal (1990) contend that value is created when a company focuses on identifying and building its core competencies.

## Differentiation

Porter asserts that a firm differentiates itself from its competitors when it provides something unique that is valuable to buyers beyond simply offering a low price. Differentiation allows a firm to command a premium price to sell more of its products at a given price, or to gain equivalent benefits such as greater buyer loyalty during cyclical or seasonal downturns. Differentiation leads to superior performance if the price premium achieved exceeds any added costs of being unique. Differentiation grows out of a firm's value chain.

"Uniqueness does not lead to differentiation unless it is valuable to the buyer. A firm's differentiation stems from how its value chain relates to its buyer's value chain. Value is created when a firm creates competitive advantage for its buyer - lowers its buyer's cost or raises its buyers performance. Unlike a firm, which can measure value in terms of price and profit a consumers measure of value is complex and relates to a satisfaction of needs" (Porter,1985).

A consumers value chain represents the sequence of activities performed by a household and its various members in which a product or service fits. To understand how a product fits into a household value chain, it is usually necessary to identify those activities in which a product is directly or indirectly involved, typically not all the activities a household performs. A company's value chain represents its strategy and approach to implementation. A household value chain reflects its members habits and needs.

A company creates value for a buyer that justifies a premium price (or preference at equal price) through 2 mechanisms:-

- by lowering buyer cost



- by raising buyer performance

For household buyers, the cost of the product includes not only financial costs but also time and convenience cost. Buyer value results from lowering costs to the buyer.

Raising buyer performance for consumers involves raising their level of satisfaction or meeting their needs. Status and prestige are important needs just as are the features of a product or its quality.

Porter also points out that buyers do not accurately assess the value that the company delivers prior to or at the time of purchase. He asserts that a detailed understanding of how the physical product affects a buyer's cost or performance often requires exclusive experience in its use. Porters also adds that buyers are more likely to understand the direct impact of a company on their value chains and often fail to recognise the indirect impact which are generally more subtle. Buyers often consider only the price of the product when measuring its value and do not add up the other more hidden costs.

Porter also makes reference to “signals of value” which he defines as indicators that buyers use to infer the value a company creates. The signals includes, but is not limited to advertising, reputation, packaging, the professionalism, appearance and personality of supplier, employees, the attractiveness of facilities and information provided in sales presentations.

In some industries, the signals of value are as important as the actual value created in determining realised differentiation. This is particularly true where a firm's impact on buyer cost or performance is subjective,

indirect, or hard to quantify, when many buyers are first time buyers, buyers are unsophisticated or repurchase is infrequent.

Porter also asserts that buyers will not pay for value that they do not perceive, no matter how real it may be. Thus, the price premium a firm commands will reflect both the value actually delivered to its buyer and the extent to which the buyer perceives this value.

When differentiating a product, the aim is to create the largest gap between the buyer value created (and hence the resulting price premium) and the cost of uniqueness in a firm's value chain.

Porter further asserts that a company's value chain is embedded in a larger stream of activities which he coined the "value system".

Recently, authors refer to Porter's value system as an "industry value chain" which includes suppliers and distribution channels. Figure 2.3 below illustrates a typical industry value chain.

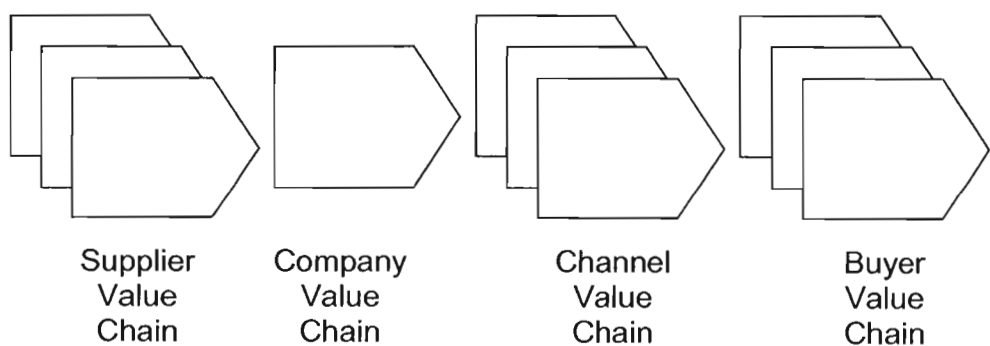


Figure 2.3 Industry Value Chain

## **2.4 Application of Theory to Moreland**

It is now necessary to form a link with the theory covered in section 2.2 and 2.3 for the property industry or more specifically the residential property portfolio of Moreland Development so that the concept of added value could be redefined in the context of this study.

To ensure a logical flow of ideas, this sub chapter will be discussed in the same order as section 2.2 and 2.3.

As indicated earlier, the value stems from either offering lower prices than competitors for equivalent benefits or providing unique benefits that exceed the cost of being unique and hence commanding a price premium.

Moreland, chooses the latter option i.e. differentiation - offering vacant land with a unique benefit of that land falling under the auspices of a HOA. Offering a unique architectural theme to which all building must conform, by offering unique street furniture (entrance features, elegant street lights) and offering landscaping that is consistent with the climate and geography and at the same time ensuring that the sensitivity of the environmental factors are taken into account. Whilst this applies to all land sold by Moreland, the discussion from this point will focus only on the Residential property and not on the Industrial or Commercial properties.

Moreland is the property development arm of the THG, a diversified conglomerate, which recently significantly downscaled its operations to just four operations i.e. Sugar, Properties, Aluminium and Starch and Glucose Divisions. (see Section 1.2 – Background)

As Porter pointed out, the competitive advantage in one industry can be strongly enhanced by inter-relationships with business units competing in

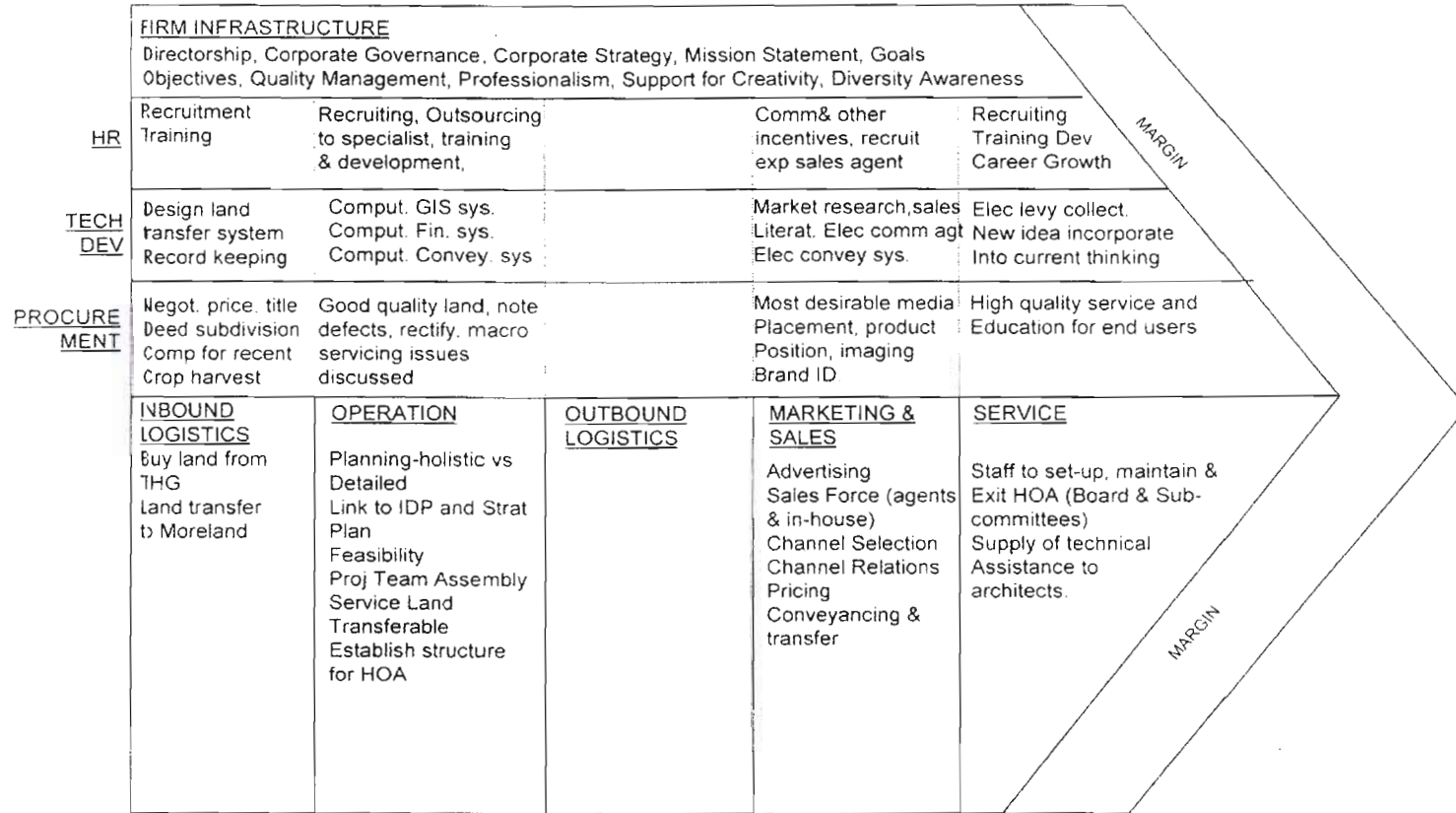
related industries if these inter-relationships can be achieved. Moreland's inter-relationship with THG's other business unit, THS, has resulted in a competitive advantage as land that is required for development by Moreland is acquired from THS. As THG has extensive land holding in the Mount Edgecombe and Umhlanga areas as well as the areas extending in a northerly direction, no other private land developer, of comparable size to Moreland, can acquire land in the aforementioned areas and hence competition is stifled. Competition does however exist in other areas surrounding the Durban Metropolitan Central Business District as well as Golf Course Estates. As the purpose of Moreland is to realise the value of the Groups assets, the cost of land paid for by Moreland (and hence sold by THS) is set to achieve this objective and ensures that is mutually beneficial to both divisions of the Group.

Regarding the creating and capturing of value, the value that Moreland creates is captured by the purchaser, the end user, the Local Authority, the owners of adjacent developments and Moreland.

The value chain for Moreland is indicated in Figure 2.4 below.

Whilst various value activities in the Value Chain below, may appear to be discrete, they are nevertheless linked to one another. These linkages are also a source of competitive advantages and it is difficult for competitors to imitate.

Figure 2.4 – Moreland Value Chain



## **Scope**

Moreland uses both broad scope and narrow scope to achieve its objectives, depending on which dimension of scope produces competitive advantages.

Moreland uses a wide (broad) segment scope as it satisfies various products across the income spectrum.

The vertical scope is intermediate as some of the value activities are performed inhouse e.g. general planning, finance, and project management. Some activities are outsourced, e.g. detailed town planning, land survey, legal, engineering consulting and contracting, some sales and conveyancing.

Moreland's geographical scope is narrow as most of its projects are concentrated around Umhlanga and Mount Edgecombe areas.

Industry Scope is narrow as well, as the core business is sale of vacant land and Moreland's business is limited to this.

## **Other Theory**

Using Bauman and Faulkner's Strategic Clock, Moreland aggressively pursues direction 4 and 5 which indicates achieving high perceived added value with constant or increasing price that exceed the cost of differentiation.

Moreland, as Prahaladh and Hamal (1990) have argued, have focussed on core competencies to achieve competitive advantage. Moreland's core competencies is the development of vacant land and Moreland have

rigidly stuck to that. There is evidence however that when Moreland did get involved in building the top structure (house or town house unit) they have been less successful as their core competence did not lie in this area.

### **Moreland's Differentiation**

Porter asserts that value is created when a firm creates competitive advantage for its buyers by either lowering its buyer's cost or raising its buyer performance. Moreland has strategically chosen the latter, even though some of its projects cater for the lower income earners, the price is still a premium because of its differentiation.

The consumers of Moreland product, vacant land, measure value in terms of satisfaction of their needs. Buyers buy vacant land for a range of reasons that include, but are not limited to, to develop and live, to develop and sell, to invest, for prestige and status, for a different life style, for security etc.

To understand how the product fits into a household value chain, it is necessary to identify those activities in which a product is directly and indirectly involved. When the product is vacant land, the value chain for the household is simply a one-off purchase. However, the simplicity of a once-off purchase represents for most buyers the biggest single investment of their life. Furthermore the type and size of building that would be built also has to be factored in at the time of purchase of the land.

The utility of the land purchased encompasses all aspects of the buyer's (and his family) value chain and determines the overall satisfaction.

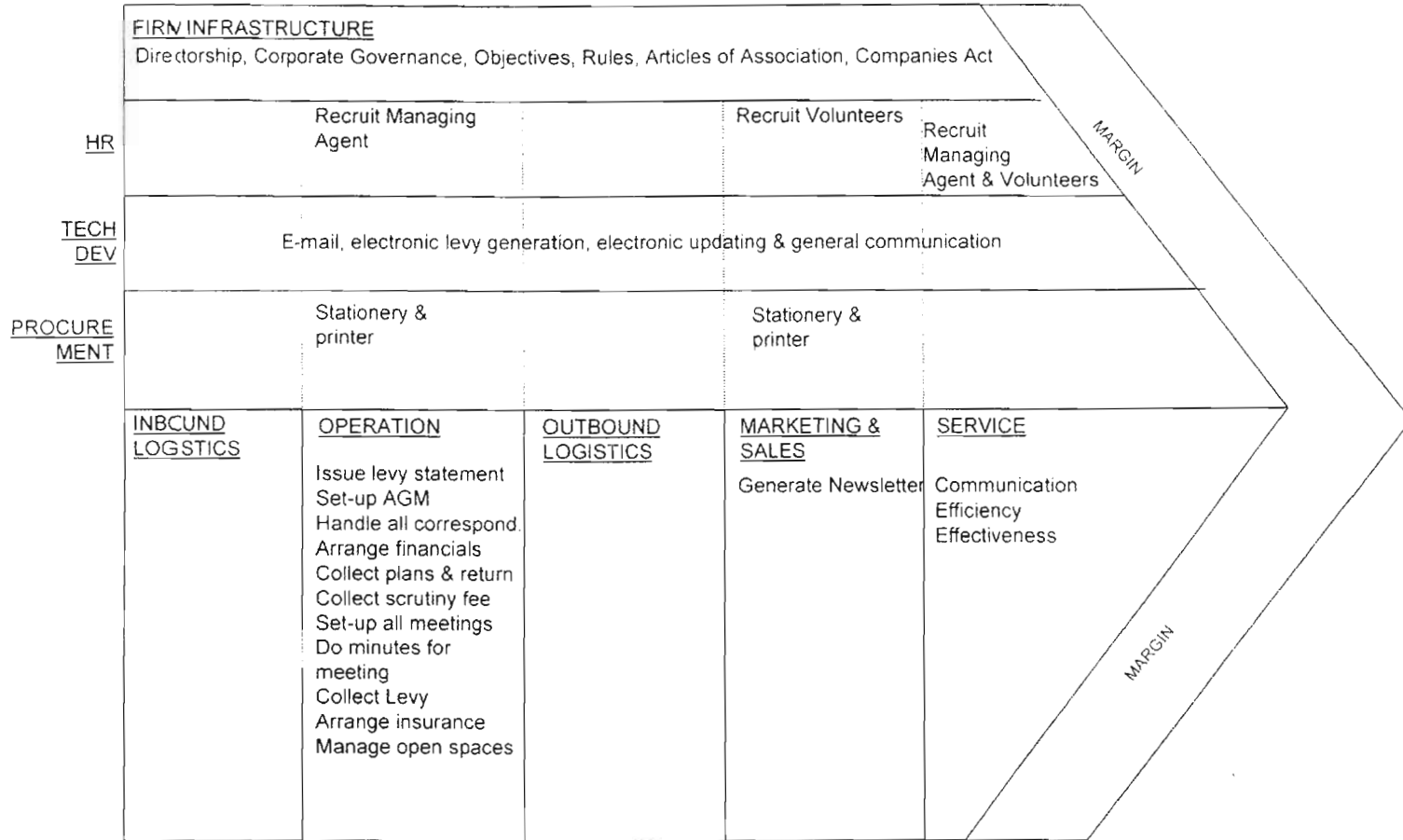
### **Some Aspects of Purchasing**

As most people in the property industry would agree, the 3 most important aspects when considering purchasing a property is location, location and location. What this basically means is that a good property in a poor location is worse than a poor property in a good location. Good property is relative and is based on the buyer's perception of what constitutes good. The types of things that a buyer may consider is area of land (commonly referred to as extent), slope, views, servitudes, amenities, schools, access to main roads, distance to work, open space proximities, value erosion factors (e.g. possible squatter activities, developments of a nature that detract from adding value, future bus and taxi routes etc). If the buyer is buying a house/townhouse unit the further considerations might be value of levy, number of rooms, fittings and finishes, rules and regulations, common features or specific features like swimming pools, etc.

The HOA also has a value chain that is indicated in Figure 2.5 below. Please note that the HOA value chain below is for a more complex HOA. The less complex HOA do a great deal less than the activities indicated in Figure 2.5.



32



## 2.5 Summary

This chapter opened with a quotation by the great Albert Einstein where he asserts that the theory is more impressive, the simpler its premises, the more things it relates and the wider its area of applicability.

Porter's Value Chain is such a theory. The power lies in its simplicity, its wide area of applicability and the number of things it relates. Porter's Value Chain disaggregates the various strategically relevant value creation activities. Value is the amount that buyers are willing to pay for what a firm provides them. Firms can capture value by either lowering the cost of performing activities or perform activities in a unique way that creates greater value and commands a price premium (differentiation).

The inter-relationships between value creation activities are also a source of competitive advantage. The value creating activities consists of two basic types viz., primary and secondary. Primary activities deal with producing a product or service and the secondary activities support the primary activities. Value creation can stem from individual activities or from inter-relationships between activities.

Moreland has chosen to capture value by choosing to perform a unique activity and charge a premium price for this uniqueness. One could argue that the lower priced vacant land is a lower cost value added activity but at that price the product is differentiated. Furthermore, the lowest land cost is far from the affordability of the "low-income" group.

Moreland's Value Chain reveals a whole host of value creating activities. This study is limited to the value created by the presence of HOAs. The theoretical model developed in this chapter would be used as a basis for the resolution of the management dilemma.

## **CHAPTER 3 – RESEARCH METHODOLOGY**

### **3.1 INTRODUCTION**

The research methodology that will be used is guided by the recommendations of Cooper and Schindler (2001) wherein the first step to assist the researcher in crystallising and isolating a problem is to form the Management Research Question Hierarchy (MRQH). MRQH assists in breaking down a problem into smaller, more direct questions that ultimately pinpoint the cause of the problem. The cause of the problem is then further investigated and the successful resolution of the problems is the last step of the MRQH.

The research design is further subdivided into descriptors that enable the design to be classified. The descriptors begins with the degree to which the research question has to be crystallised, the method of data collection, the power of the researcher to produce effects in the variables under study, the purpose of study, the time dimension, the topical scope, the research environment and the subjects perceptions of research activities.

The sampling design will also be discussed and reasons for a particular choice will be explained. Since the research consists of 5 sub-samples, random subjects were chosen at each stratum. This randomness ensures that the sample statistics may infer population parameters at a given level of confidence. For research of this nature, 95% level of confidence is usually accepted.

The research instrument is in the form of a questionnaire that will be completed via telephonic interview. The advantages and disadvantages of this type of interview will also be discussed. The type of questions will vary from open to close questions giving a whole array of data types (viz. nominal, ordinal, internal and ratio).

Various statistical methods will be used to analyse and manipulate the data. These range from basic descriptive statistical analyses to more complex z-tests and t-tests for inferential statistics. The Coleman Technique will also be used to establish the variance of dependent variables relative to variance of independent variables.

The ethical issues will also be discussed and the process to ensure that respondents understand their rights and obligations will be commented.

### **3.2 RESEARCH PROCESS**

A scientific, logical, sequential process will be followed to resolve the management dilemma. Cooper and Schindler suggest the use of the Management Research Question Hierachy (MRQH) to develop the management dilemma to a series of questions that would eventually solve or give recommendations regarding the dilemma. It also helps the researcher crystallise and isolate the problem and enables a scientific approach to problem resolution.

The MRQH is listed below :-

Step 1 :- Management Dilemma

Moreland Developments are uncertain about the quantum of added value derived by the operation and maintaining of HOAs.

Step 2 :- Management Questions

How can Moreland quantify the concept of added value?

Step 3 :- Research Questions

- a) Does the customer see added value in purchase?
- b) What is the quantum of added value perceived by the customer?

Step 4 :- Investigative Questions

- a) Does the presence of HOA have an impact on the decision to purchase vacant land ?
- b) Does the presence of a HOA allow Moreland to command a price premium on the sale of vacant land?

The first question establishes if the customer sees added value in the property because of the presence of HOA. The second question establishes what percentage added value the presence of HOA creates and hence the sale price of vacant land can be adjusted accordingly.

Step 5 :- Measurement Questions

These are the questions actually asked to the respondents. Please see Appendix A1 for a copy of the questionnaire used to obtain answers to the questions in Step 4 above.

Step 6 :- Management Decision

This step establishes the answers to the questions and allows for recommendations to be formulated.

### **3.3 RESEARCH DESIGN**

Since this study is guided by the objectives, which are stated as hypotheses, and since these hypotheses have to be tested, a formal study was chosen as opposed to an exploratory study where the aim is to discover future research tasks. Formal study will ensure that the research question is resolved.

The method of data collection chosen for this research topic is an interrogation/communication study as the type of data required to solve the management dilemma can only be obtained by communicating and eliciting responses from the subject. Establishing the perceived added value would not be possible by merely monitoring the subjects. The researcher in this study does not have control and nor can he manipulate the variable under

study and therefore the design is regarded as ex-post facto. The subjects, at the time of research, have already purchased land and would have already made up their minds about the HOA value.

The type of study the writer has chosen is both descriptive and causal. The description analysis will cover aspects of where, when and how much and the casual analysis will establish relationships and causation between variables.

Due to time constraints for this level of research, a cross-sectional time dimension for this study was chosen. The results were collected during May 2002. Should time permit, future researchers could examine the perceptions of added value over time which would be affected by the performance of the relevant HOAs.

A statistical technique was chosen for this study as an attempt will be made to capture a population's characteristics from inferences made from sample parameters. Hypotheses will be tested quantitatively and generalisations about findings will be present based on the representativeness of the sample and the validity of the design. This research topic does not lend itself to a case-study design.

The research will be performed under field construction as it does not lend itself to laboratory/simulation conditions.

It is intended that the subject's perceptions would not be altered by the researcher or by the type of questions asked. The subjects would have already purchased the vacant sites and would have perceptions about added value long before the study is performed. As the site is sold, the subjects have no reason to alter their feelings about this added value. Furthermore, anonymity of the subjects is ensured and hence the subjects have no reason to change their perceptions.

### 3.4 SAMPLING DESIGN

There are 4 reasons why the writer has chosen to sample rather than do a census to obtain the answers to the management dilemma.

- Lower costs
- Greater accuracy of results
- Greater speed of Data Collection
- Availability of Population Elements

The writer has chosen to use probability sampling as the sample generated could be analysed using advanced statistical techniques and the sample would be more representative of the sampling frame and the population. Furthermore, the writer can make probability-based confidence estimates of various parameters that cannot be made with non-probability sample.

Since this study focuses on five HOAs, the sampling frame includes all owners of residential property (both developed and vacant) on each of the five projects. These projects include Zimbali, Mount Edgecombe Country Club Estate (MECCE), Gardens, Somerset Park and Broadlands. The population therefore represents all owners of residential property within these projects and all potential purchasers of residential property in similar HOA type projects. The study, therefore, will allow Moreland to plan future phases of the projects listed above as well as new projects (that resemble these stated projects) depending on the outcome of this study.

The variables of interest in this study are measured on interval and ratio scales, therefore the parameters of interest that will be used are the sample mean and sample standard deviation to estimate the population mean and standard deviation respectively.

For other variables of interest measured on nominal or ordinal scales, the sample proportion of incidence and sample measured of dispersion are used to estimate population proportion of incidence and variance respectively.

The writer has opted for a stratified random sample as the projects that have HOA vary from “low” income to extremely high income and the complexity of the HOA varies in parallel to these extremes. The disproportionate stratification was decided on as the writer felt that each strata could be large enough to secure adequate confidence levels and interval range estimates for individual strata. This would also ensure that the sample technique is superior to other techniques as a higher statistical efficiency could be achieved (Cooper and Schindler, 2001). Table 3.1 indicates the sample size of each strata as well as the percentage of sample size to sampling frame for each stratum.

Sub-Strata	Sample Size	Sampling Frame Size	% of Sampling Frame
Broadlands	20	106	18.9
Somerset Park	23	390	5.9
Gardens	17	69	24.6
MECCE	15	254	5.9
Zimbali	18	225	8.0
<b>Total</b>	<b>93</b>	<b>1044</b>	<b>8.9</b>

Table 3.1 – Sample Stratification

Cooper and Schindler (2001) indicate that a sample size that exceeds 5% of the sampling frame is representative. From Table 3.1 above, it can be seen that each strata percentages exceeds 5% and the total sample size also exceed 5%. This implies that each strata as well as the whole sample is representative.

**3.5 RESEARCH INSTRUMENT**

The research instrument design comprise three decisions :-

- Data Type Selection



- Communication Approach Selection
- Process Structure Selection

#### 3.5.1 Data Type Selection

The writer has chosen to use an array of data types for the various questions in the questionnaire. The type of data that applies specifically to the hypothesis testing questions are interval and ratio. This ensures that more complex statistical analysis techniques can be applied to them. The less important questions range from nominal to ordinal and some include interval data.

#### 3.5.2 Communication Approach Selection

The communication approach was selected by the writer because of its efficiency and economy when compared to observation approach. Furthermore, the nature of the research requires that communication be made with respondents to ascertain their perceptions of added value. This could not be achieved via observation.

Due to the constraints and coupled with the large number of subjects, the choice of communication approach pointed to the use of a telephonic interview to answer a questionnaire with standard questions that all subjects were subject to.

The benefits of the telephonic interview are as follows : -

(a) *Moderate Cost* : - Cooper and Schindler (2001, pp309) assert that telephone surveys can run from 45 to 64% lower than comparable personal interviews. This savings results, in the main, from reduced travel costs and administrative costs.

(b) *Short Data Collection Time* : - Subjects generally do not like talking for long durations on the telephone and therefore the researcher can ask a few direct questions and get direct answers from respondents.

(c) *Interview Bias is Reduced* : - Bias caused by physical appearance, body language, and other actions by the interviewer is not an issue for telephonic surveys.

(d) *Telephone Ownership* : - Fortunately the market segments in which the five sub-samples fall into are relatively well off and 100% of sample have either a home telephone or a cellular telephone.

(e) *Reduced Non-Contact Rate* : - Behavioural norms suggests that a ringing telephone is usually answered and the caller decides the length, purpose and the termination of the call (Cooper and Schindler, 2001).

Another advantage was that the telephone survey yielded a lower refusal rate (ratio of respondents who decline the interview). Perhaps this is because of Moreland's relationship with the communities. This good relationship ensured that the interviewer was favourably accepted. The telephone survey yielded only one respondent who flatly refused to be interviewed.

The disadvantage of the telephone surveys are : -

(a) *Inaccessible Household (no telephone service)*: - this was not a problem as 100% of sample has either a home telephone or a cellular telephone.

(b) *Inaccurate or non-functioning numbers*: - The managing agents of the various HOAs keep accurate details of all contact details of owners. This did not affect the writer in carrying out the interviews.

- (c) Limitation on Interview Length: - This is a time limitation and is overcome by asking the more important questions early in the interview and the less important questions later in the interview. In this way, should the respondent want to terminate the call prematurely, at least the important questions would have been answered.
- (d) Limitation on Visual or Complex Questions: - This is overcome by keeping the questions simple and short.
- (e) Ease of Interview Termination : - This is generally done when the respondent feels that the researcher is trying to solicit contributions or selling products. This is overcome by the full and upfront disclosure of the reason for the call, the supplying of all relevant particulars to the respondent. This is further discussed in Section 3.7 (Ethics in Research).
- (f) Less Respondent Involvement : - telephone surveys result in less thorough responses. It is up to the researcher to gently probe for reasons why certain responses were given.

### 3.5.3 Process Structure Selection

Administrative questions were not asked of the respondent as the information was obtained from a database of all land sales. The name, lot number, extent of site, location, purchase price and date of transfer were all completed prior to calling the respondent.

Classification questions were, in the main, structured and offered definitive choices. These were in the latter part of the survey.

The target questions contained a combination of structured and unstructured questions. The structured question (closed questions) were worded such that

the choices given were definitive and did not lead to the respondent. These choices formed a rating scale commonly referred to as the Lickert Scale.

The unstructured questions (open questions) allow the respondent more flexibility and do not lead the respondent into an answer. It also allowed the qualitative answered to be expanded on. During analysis of the data the answers to the unstructured questions were compartmentalised so that it could be modelled mathematically.

As the purpose of the study and the sponsor is not a secret, there was no need to disguise any questions. The open and transparent manner in which the questions were asked ensured a good response rate. This is especially evident when the question about gross monthly income is asked. Only 3 respondents (in 93) representing 3% of the sample declined to answer this particular question.

### Pretesting

A two stage Design – test – revise – retest – revise process was performed to fine tune the questionnaire and ensure that the common pitfalls were not repeated. The following items were considered and, where necessary, revised to ensure that the telephone survey would be economical and efficient.

The questions were revised to ensure that the respondent's interest is maintained throughout the survey. The questions were redesigned to ensure construct and content validity and their meanings were unambiguous. The continuity and flow of the questions were smoothed out. The question sequence ensured that less important questions were asked later in the interview. The length and the timing was measured to ensure that respondents would answer all questions before termination of the telephone call.

### 3.6 STATISTICAL METHODS

The statistical analysis of the data will be examined in Chapter 4 and 5 of this thesis. Chapter 4 will deal with the analysis of and discussion on the descriptive statistics and Chapter 5 will deal with the analytical statistics with inferences about population parameters.

The analysis of descriptive statistics will include totals, means and modes for the various data sets and sub-strata. These data sets will be plotted graphically and trends will be discussed.

Other bivariate relationships in the form of scatter plots to measure association (correlations) between variables will be plotted and the level of association, as determined by co-efficient of correlation, will be discussed.

The analysis of the inferential statistics will be performed in Chapter 5. Significance tests will be carried out to enable inferences to be made about the population parameters from samples statistics.

The distribution of frequency for relevant data sets will be checked for “normal” relationships and therefore the z-test will be applied when testing hypothesis or establishing confidence intervals for the means and standard deviations. For the smaller sub-samples where sample sizes do not exceed 30, the Student-t test are used to test sub-sample hypotheses and to establish confidence intervals for the means and standard deviations.

The level of confidence will be set at 95% which gives a Type I error of 0,05 (i.e.  $\alpha = 0,05$ ). For this type of research this level of confidence is acceptable and has been ratified by the research supervisor.

Another statistical test that will be used to determine “effect parameters” of the variance in a dependent variable can be accounted for by variances in a

series of independent variables. This test is referred to as the “Coleman Technique”.

The statistical test chosen will enable the writer to make confident inferences about the population parameters from the data obtained via the survey. These tests will ensure that the research objectives, which are converted to hypothesis, can be tested at a given level of confidence to establish significance and, in so doing, assist in the resolution of the management dilemma.

### 3.7 ETHICS IN RESEARCH

To ensure full and clear transparency of the research the following procedure was adopted to ensure that a rapport is built between the interviewer and the respondent . The interviews for all 93 respondents was performed by the writer : -

- Interviewer introduced himself and advised respondent of his job title and the name of the company that employed him.
- Informed respondent about research towards the MBA degree.
- Advised respondent about the purpose of the study.
- Promised a “**good faith**” estimate of time required to complete the interview.
- Advised the respondent that the outcome of the research may enable the HOA to give a better service to them and their community.
- Promised anonymity and confidentiality.
- Advised respondent that participation is voluntary.
- Advised respondent that item non-response is acceptable.
- Requested permission to begin.
- At the end of the interview, thanked respondent for their time and input. Confirmed confidentiality and advised that the information will be used for statistical purposes only.
- Also offered a summary of findings to be posted to their addresses.

### 3.8 SUMMARY

The MRQH is used to disaggregate the management dilemma into more specific questions that can be researched and resolved. The MRQH helps researchers to isolate the cause of the management dilemma and develops specific questions to solve the problem.

The research design was guided by Coopers and Schindler (2001) descriptors of research design. The design is classified as a formal study as it is guided by hypotheses which can be either rejected or not rejected. The method of data collection chosen is communication as eliciting responses from respondents is paramount to obtaining perceptions of added value. These perceptions cannot be obtained by mere monitoring.

The design is also ex-post facto as the respondents perceptions about the value (or lack thereof) is formed prior to the interview. The researcher/interviewer could not therefore influence the variables. The study is also performed at a point in time due to time constraints which makes this design cross-sectional.

The sampling design consisted of probability sampling to ensure greater statistical significance. Furthermore, since the five projects consisted of elements that could lend itself to sample stratification, this technique was chosen for a higher statistical efficiency. The type of sample design is called the Disproportionate Stratified Random Sampling. In this method samples are assumed to have homogeneity within and heterogeneity without.

The research instrument used was a questionnaire with standardised questions for all respondents. Different types of questions ensured that different data types were received viz. nominal, ordinal, internal and ratio data. The method of interview that was chosen was telephonic survey due to time and cost constraints.

The instrument was tested and revised twice prior to implementation to ensure that flow was good, interview length (time) was acceptable and that all ambiguity was removed. The researcher followed an ethical approach to the telephone survey and was open and honest to respondents regarding the purpose of the study, the sponsor, the length of time the interview would take, the anonymity and confidentiality of the information, the voluntary nature of participation, and the non-response to questions.

The type of data received lends itself to the use of different statistical analysis and tests. The nominal and ordinal data will be used to obtain averages, totals, modes and medians. The interval and ratio data will be used for higher statistical analysis to test hypothesis and establish confidence intervals for means and standard deviations. The former analysis (descriptive statistics) will be dealt with in Chapter 4 and the latter analysis (analytical statistics) will be dealt with in Chapter 5.



CHAPTER 4 – REPORTING AND DISCUSSION OF RESULTS –  
DESCRIPTIVE STATISTICS

“Data! Data! Data!” he cried impatiently. “I can’t make bricks without clay”  
Sherlock Holmes

4.1 INTRODUCTION

The analysis of data will be performed in two parts viz. descriptive statistical analysis and analytical statistical analysis. The former will be dealt with in this chapter and the latter will be dealt with in Chapter 5. It must be borne in mind that both these chapters are complimentary and must be read in conjunction to get an overall impression of the trends in the residential property market in the north of Durban.

The raw and tabulated summaries are included in the Appendix of this thesis.

4.2 DISCUSSION OF RESULTS

4.2.1 Basic Relationships

Each set of summarised data will be presented graphically and will be followed by a discussion of the indicative trends.

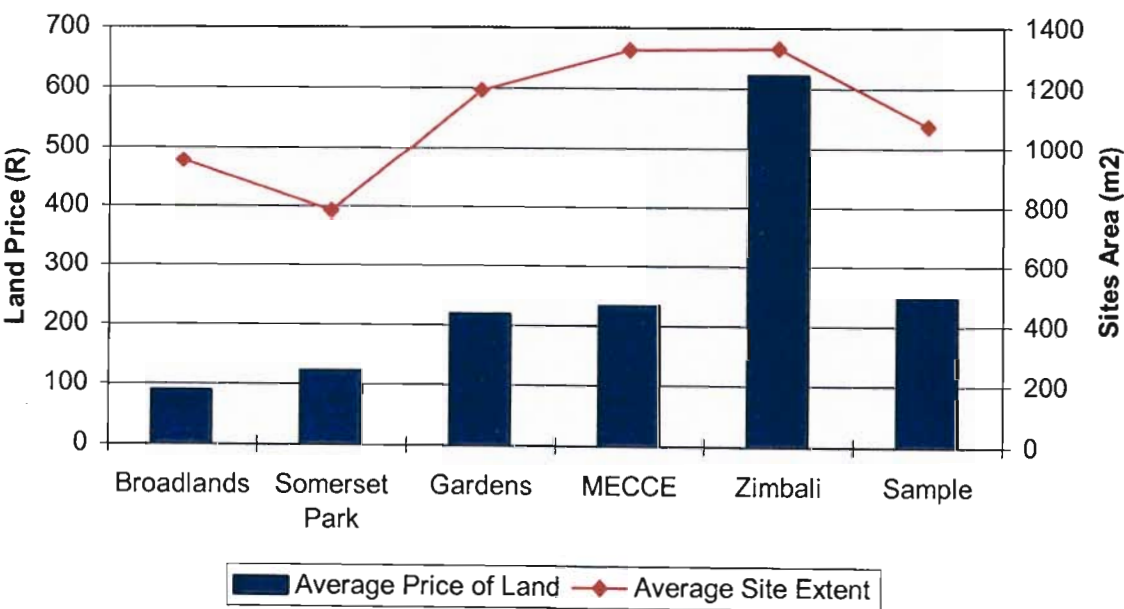


Figure 4.1 - Graph of Land Price and Site Extent.

The trend clearly indicates that the average land price increases from Broadlands to Zimbali. This is consistent with Moreland's pricing strategy as each project caters for different market segment. The pricing strategy intention is to have products (vacant land) in the various price categories to ensure that no segment (within predefined pricing criteria) is left out. The predefined pricing criteria limits the "bottom-of-the-range" price to that of the Broadland's project. Strategically, Moreland have chosen not to enter the "low-income" market as quality of the finished product will be sacrificed to lower the cost of servicing of the vacant land. The drop in quality would adversely affect the image of Moreland.

The average prices indicated in the graph also do not show that the spread around each price is such that there is slight overlap of prices which ensures that the "one-stop-property-shop" principle is achieved. Customers can therefore find a property from as little as R80 000 to as much as R700 000 and almost any price in-between. Linked to the price of the vacant land is the average extent of the sites sampled. Whilst it is well known in the property industry (residential), the site extent is not the main driver of the land price, there is a weak link between the two. This will be discussed further in Section 4.2.2. The trend in Figure 4.1 shows that, with the exception of Broadlands, there is a direct proportional relationship between price of land and site extent. Market trends have shown that generally across the projects, as the price of land increases, so does the desire to build an increasingly substantial house which translates to the desire for a greater land extent. This confirms the proportional relationship.

The exception to the relationship is Broadlands. The reason for the larger average site extent (relative to its price) is because of the geography of the project. Due to the relatively steeper terrain of the land and the requirement that the market segment prefers land that is more elevated than the road-way, the town planning sub-divisional layout consists of a series of "pan-handle" sites. These sites have a long drive-way which then opens up to the main

portion of the site. These long drive-ways have resulted in the site areas (extents) being higher than those of Somerset Park. The geography of Somerset Park is such that there are only a few sites with “pan-handle” drive-ways.

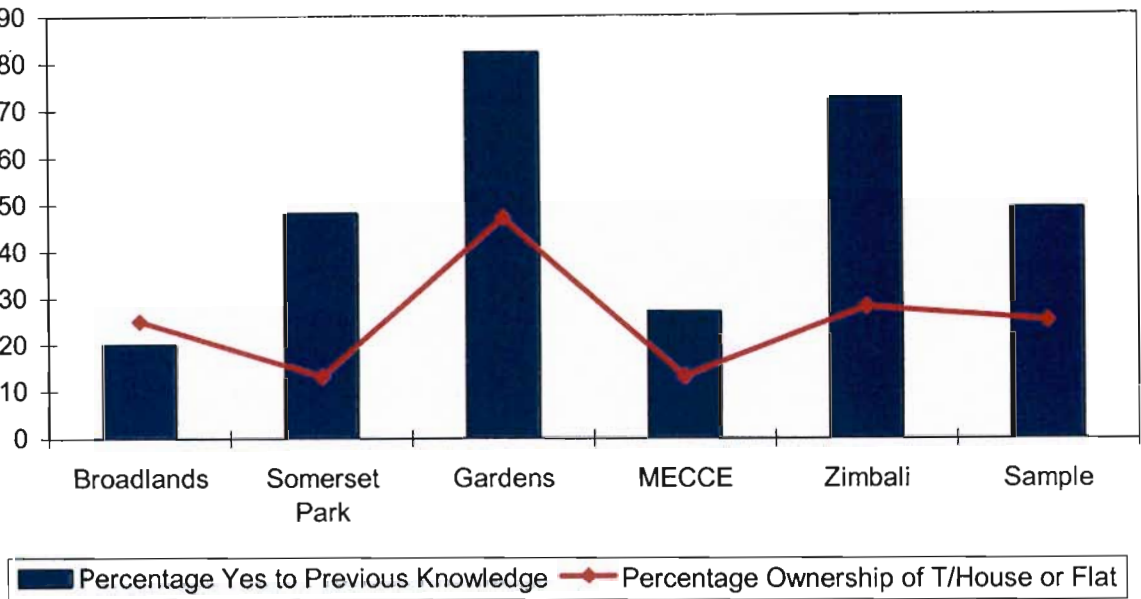


Figure 4.2 – Graph showing previous knowledge of HOA.

This graph shows the percentage of the sample that knew about the concept of HOAs (or body corporates) before purchasing land and also shows the percentage of sample that lived in the town houses and flats previously. The total sample revealed that there were only three types of previous dwelling units, viz. house, town-house or flat.

The data clearly indicates that the percentage of the sample that knew about the concept of HOA’s and body corporates in Broadlands is the lowest.

This could possibly be attributed to the fact that this particular segment of the market had not been exposed to these “community-based” concepts due to firstly, the previous high ownership of houses in non-HOA environments, and secondly, the previous low-ownership of town houses and flats which would have given exposure to either the HOA / Body Corporate type systems.

The sample data also indicates a fairly significant percentage of previous knowledge of HOA / Body Corporates for the rest of the projects except MECCE. It is asserted that the low exposure to this type of living prior to purchasing at MECCE is the reason for the small percentage. This is evident by the fact that of the MECCE sample only 13% lived in town houses and flats previously.

The previous ownership of town houses and flats would have exposed customers to the concept of HOA / Body Corporate is evident in the Gardens project. Forty seven percent of the Gardens sample lived previously in either a flat or a town house. The Gardens also exhibits the highest percentage (82%) of previous knowledge of HOAs.

It is also interesting to note that approximately one in every two customers (48%) knew about the concept of HOA / Body Corporates.

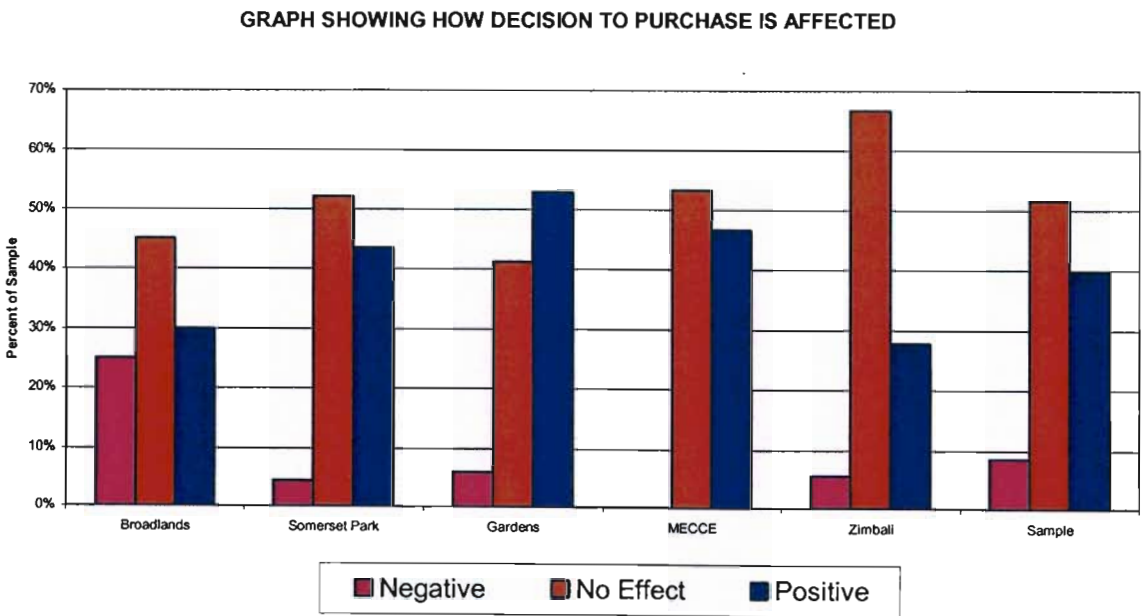


Figure 4.3 - Graph of Decision to Purchase affected by presence of HOA.

The question asked to respondents was “How did the presence of HOA affect your decision to purchase?”. The answers were plotted on a 5-point Lickert Scale ranging from Highly Positively to Positively to No Effect to Negatively to Highly Negatively.

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The scores of Highly Positively and Positively were combined and so were the scores of Highly Negatively and Negatively.

The high percentage of “No Effect” scores in all projects may lead one to believe that this was the general consensus. This particular data set will be examined in greater detail in Chapter 5 where the significance of these results will be rigorously tests with the most parsimonious mathematical model.

It is worthwhile to note that Broadlands has the highest percentage of “Negatively Affected” scores. Upon further probing, the writer/interviewer ascertained that the rigidity of rules and regulations and architectural theme made the investment unattractive. They did, however, purchase the land as the other advantages outweighed the stated disadvantages.

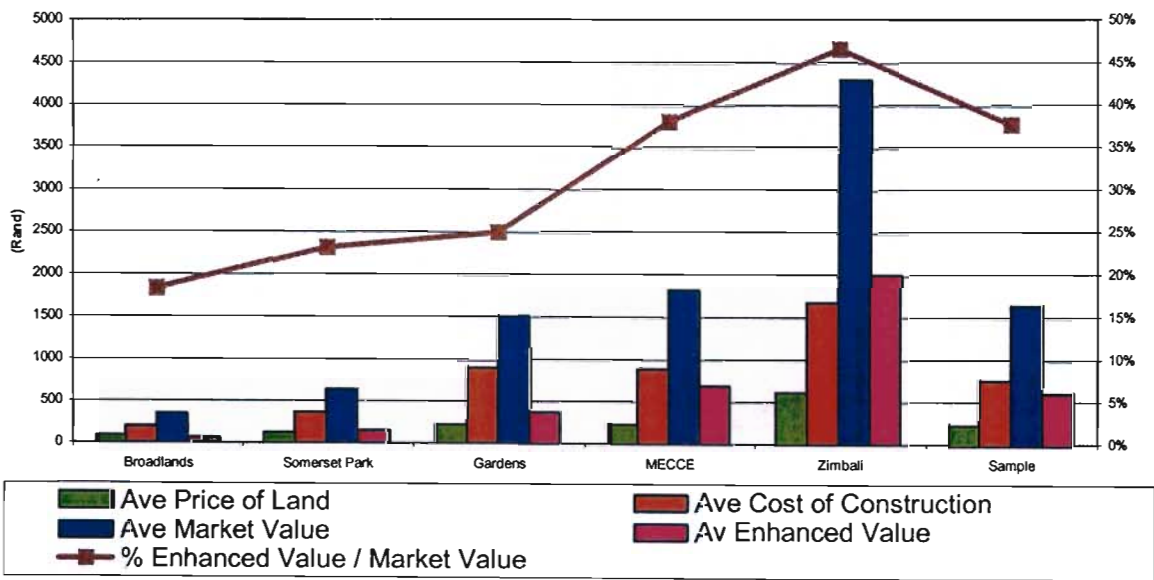


Figure 4.4 – Graph of Value of Investment

The graph above shows five values for each project :-

- (a) Average Price of Land
- (b) Average Cost of Construction
- (c) Average Market Value
- (d) Average Enhanced Value

#### (e) Percent Enhance Value to Market Value

Enhanced value is a construct that is defined mathematically as the difference of the Market value and the amount spent by the owner ( = Price of Land + Cost of Construction) which is displayed as :-

$$\text{Enhanced Value} = \text{Market Value} - (\text{Price of Land} + \text{Cost of Construction})$$

There is a clear trend of a proportional relationship between all 4 values listed above from Broadlands to Zimbali i.e. there is increasing land price, cost of construction market value and enhanced value across the projects. Furthermore the percentage increase of enhanced value/market value also increases from Broadlands to Zimbali.

It must be noted that this enhanced value, that would be obtained if the sample respondent sold his property is due to a number of factors, one of which is the presence of a HOA. To ascertain what percentage of the enhanced value is due to the presence of a HOA, the writer has to first establish what percentage of the purchase price was attributed to the presence of a HOA and secondly what percentage of the current enhanced value attributed to the presence of a HOA. Figure 4.5 below indicates this data.

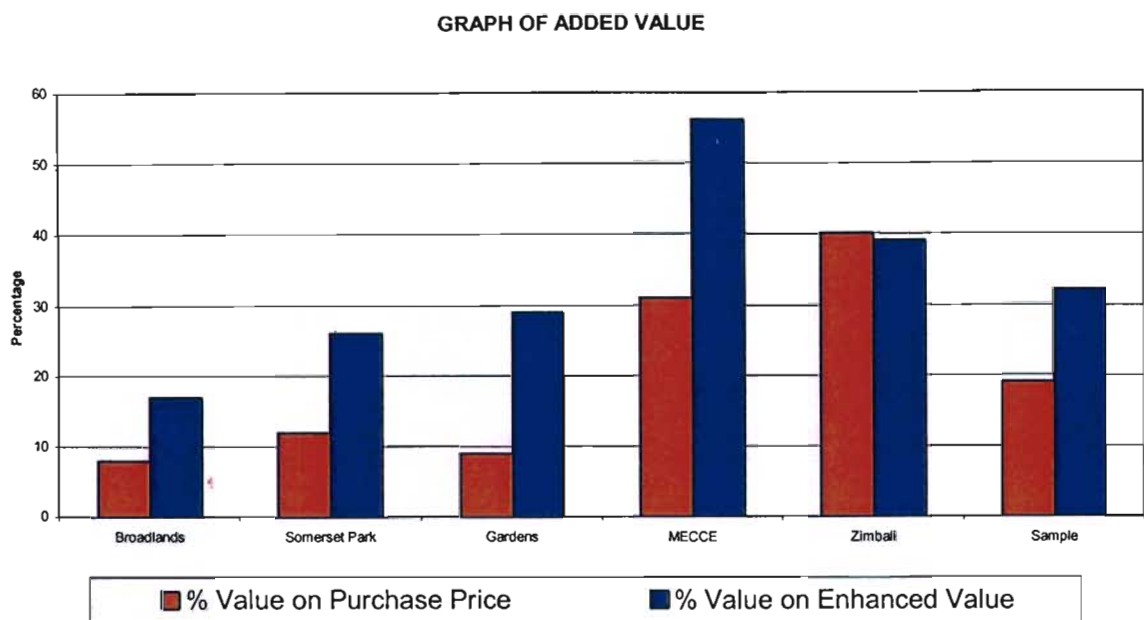


Figure 4.5 - Graph showing Percentage Value due to HOA.

The graph clearly indicates a general increasing percentage of HOA value at the time of purchase from Broadlands to Zimbali. Gardens, however, has a lower score and tends not to follow the trend. As pointed out earlier Gardens had the highest percentage of previous knowledge of HOA / Body Corporates which the writer linked to the fact that Gardens also had a high proportion of previous ownership of town houses and flats. The writer can only assume that the majority of Garden's owners who previously lived in town houses / flats may have had negative experiences and therefore scored low on the "at purchase" value of HOA.

The second set of data on the graph shows the current value of the HOA (as a percentage of enhanced value). Here again there is a generally increasing trend but this time from Broadlands to MECCE. Zimbali, however, does not fit the trend but almost maintains its value when compared to the "at purchase" value. A possible explanation for the almost equal percentage is that the HOA expectation has been met (i.e. the perception of value at the time of purchase was similar to that currently being experienced). The HOA at the time of



purchase, was valued at 40% of the purchase price and currently is valued at 39% of the enhanced value.

All the other projects exhibited a higher current HOA value when compared to “at purchase” HOA value. One could deduce that the customers had some idea of its value at time of purchase, and today, once the customer has experienced the concept, places more values on the HOA as it helps to achieve greater and enhanced value. This is evident when one looks at the specific item of the HOA that the customers / home owners currently perceive as value enhancing.

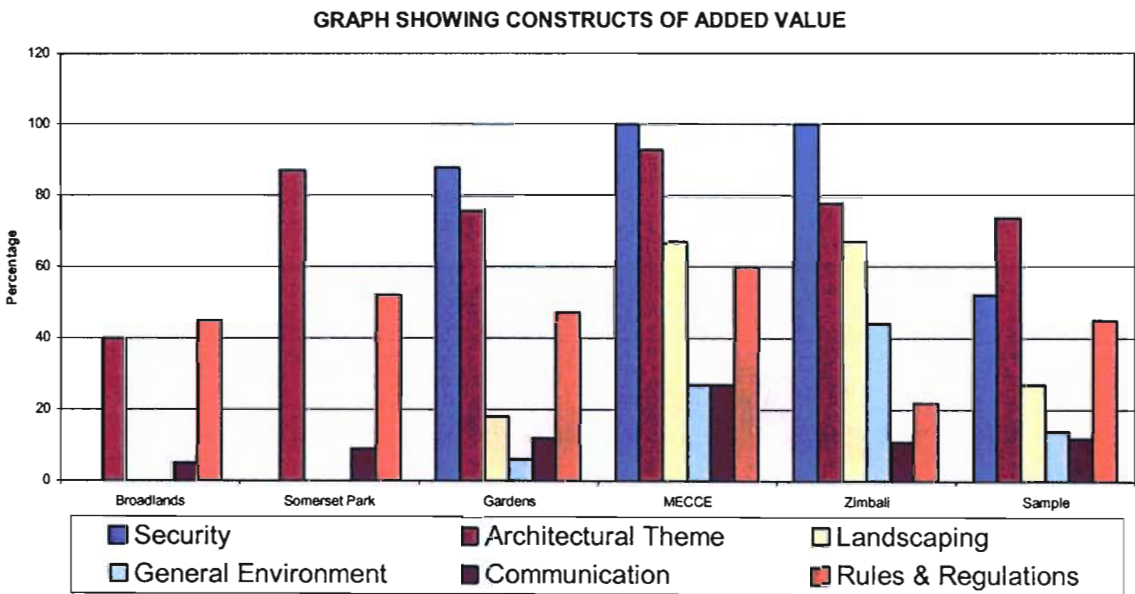


Figure 4.6 - Graph showing Added Value Constructs - Presently.

The question on the specific elements that derive value within a HOA was open-ended. The writer then grouped the data from the responses and summarised them. The specific items are referred to as constructs of added value. These summaries results are indicated graphically in Figure 4.6 above.

In Broadlands, even though the value placed on HOA, is relatively small, 40% of respondents see value in the architectural theme and its enforcements and 45% see value in the having the rules and regulations for purposes of control.



A mere 5% see value in the communication, in the form of a newsletter, produced by the HOA.

The progression of change in the importance of the constructs is clearly evident. At the Broadland / Somerset Park level the emphasis on added value is architectural theme and rules and regulations. As the project become increasingly complex (i.e. Garden → MECCE → Zimbali), the importance of the various constructs changes significantly. Security and Architectural theme are the prime drivers of added value for these HOAs. The others constructs also become increasingly significant as project complexity increases as is evident in higher scores for landscaping, general environment and communication.

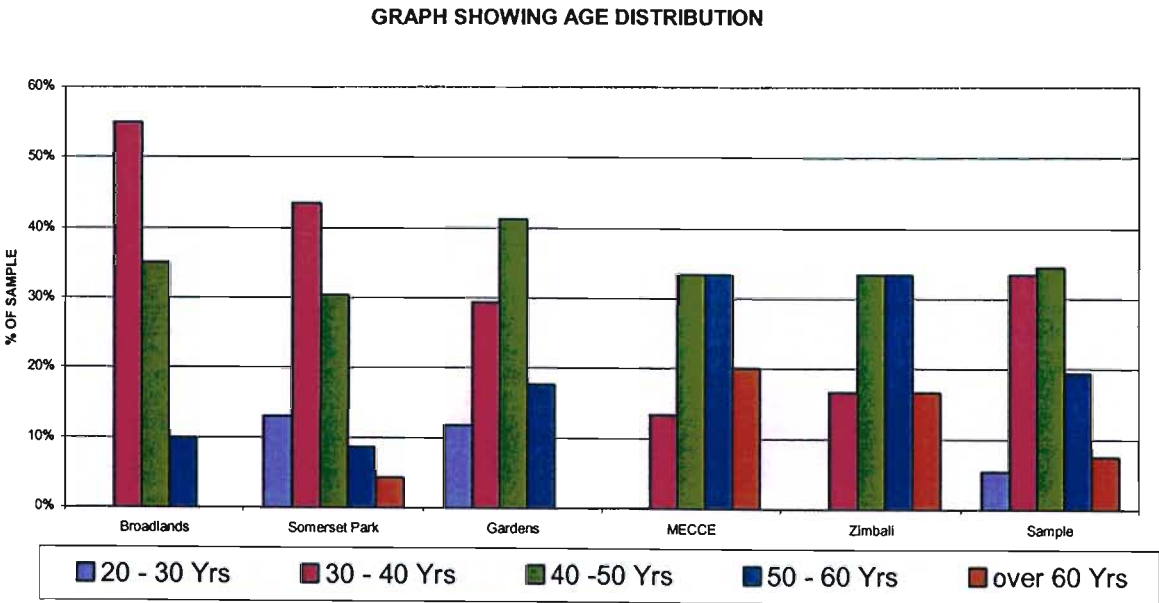


Figure 4.7 - Graph showing Age Distribution.

The age distribution graph gives an indication of the age category prevalence across the projects. Clearly Broadlands has a majority age grouping of 30 to 40 year olds and this trend changes with increasing numbers of older people (and decreasing number of younger people) as the projects become more sophisticated. Both fully gated golf estates (MECCE and Zimbali) have a higher percentage of older people (>40 year olds). A fair number of over 60's

in both MECCE and Zimbali indicate that these types of projects are chosen as property in which individuals can retire.

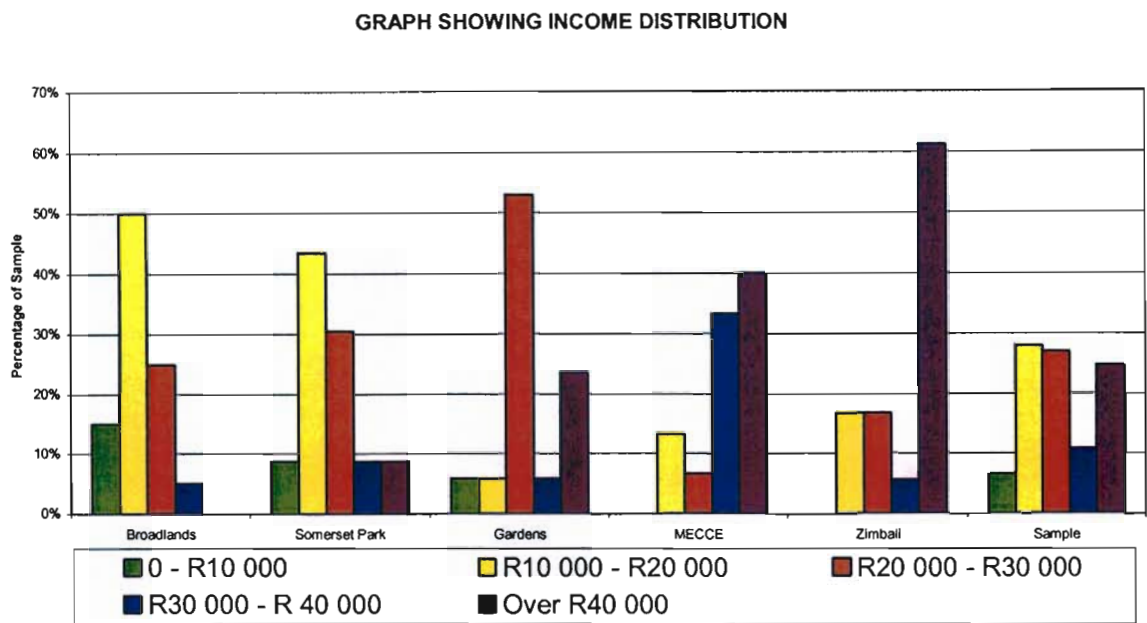


Figure 4.8 - Graph showing Income Distributions

The income distribution graph is one that could be expected. The land cost of the site in each project gives an indication of the income level of the purchasers. The projects are arranged in order of increasing land price (see Figure 4.1). Figure 4.8 clearly shows the increasing income generation from Broadlands to Zimbali. This graph also confirms Moreland’s status as the “one-stop-property-shop” as all income bands are catered for over the various projects.

GRAPH OF FUTURE PURCHASE DECISION

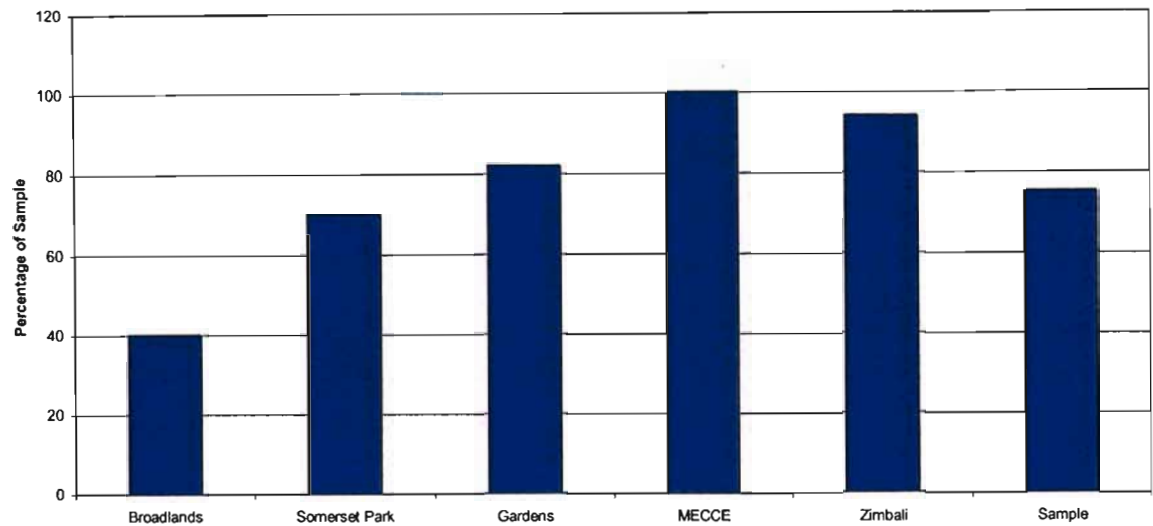


Figure 4.9 - Graph showing next purchase in HOA environment.

The graph above gives the percentage of respondents that answered “yes” to the question “If you were to purchase from another suburb, would you look for a property that belongs to (is administered by) a HOA?”

Figure 4.9 above shows an increasing percentage from Broadlands to MECCE but a drop in percentage for Zimbali. This increasing percentage is evidenced by the fact that once owners lived in the area and experience the HOA, they place more value to it and see more value in it. This is also consistent with the trend in Figure 4.5. The drop in the value of Zimbali percentage represents just one person of the sub-sample of 18 respondents. The sample average of 75% represents a significant proportion of people who believe that the presence of a HOA adds value to their investment and would therefore consider buying their next home within a HOA environment. The question, however, remained as to what particular aspects of the HOA they would look for in their next purchase. Figure 4.10 below indicate these summarised findings.

GRAPH SHOWING FUTURE PURCHASE ADDED VALUES

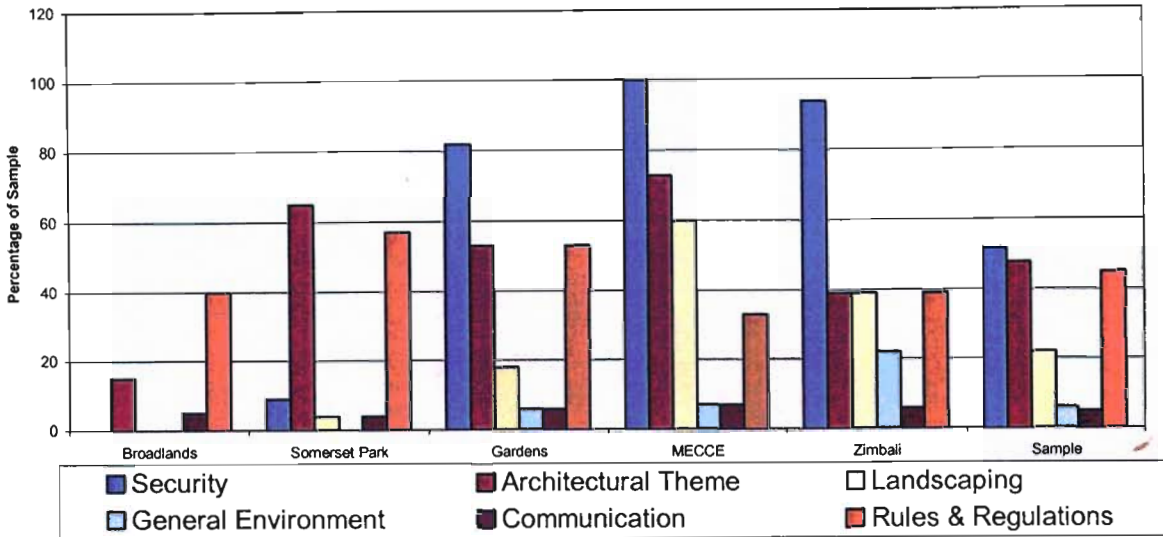


Figure 4.10 - Graph showing added value constructs for future investment.

This graph has a very similar trend to that in Figure 4.6 with security and architecture being the main drivers of added value. Furthermore as the projects become more complex, the other constructs take on greater significance.

#### 4.2.2 Bivariate Relationships

When considering two variables, it is sometimes necessary to establish if these variables have a strong association between each other. Freedman et al (1978) note "If there is a strong association between two variables, then knowing one helps a lot in predicting the other. But when there is a weak association, information about one variable does not help much in guessing the other."

Establishing these associations (correlations) can help in predicting outcomes for values not tested. When drawn on a scatter plot a regression line plots the best estimate of association between the variables. The correlation co-

efficient ( $r$ ) measures the linear association or clustering around the regression line. (Freedman et al 1978).

The writer has attempted to establish the strength of the association of the following variables :-

- (a) Decision to Purchase
- (b) Income Band
- (c) Percentage Value of HOA at Purchase
- (d) Percentage Value of HOA Currently

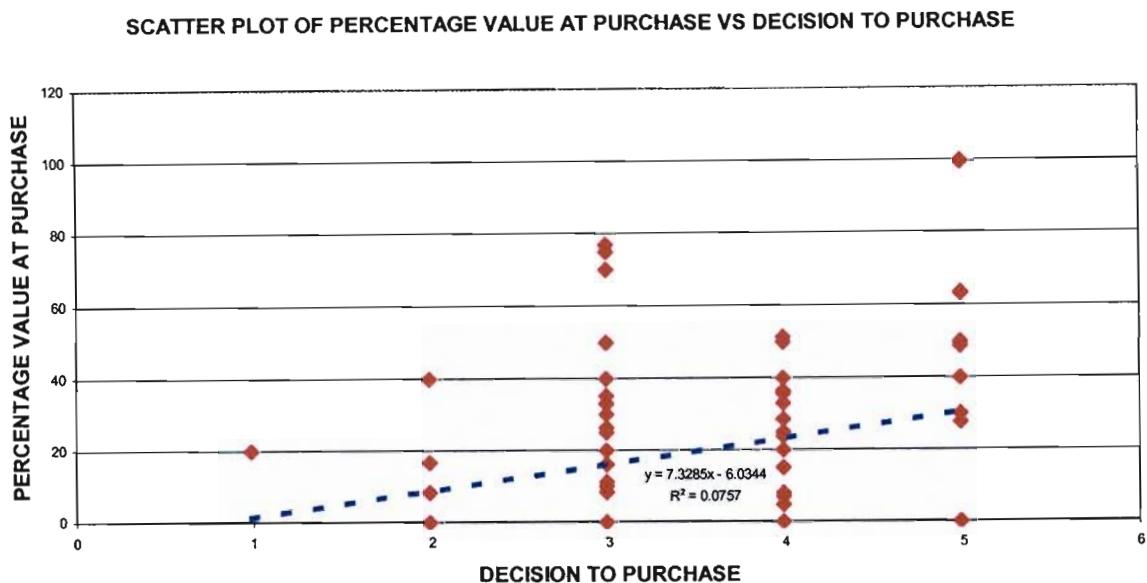


Figure 4.11 - Scatter Plot of Decision to Purchase and Percentage at Purchase

It must be borne in mind that the X-Axis variable (Decision to Purchase) is not continuous and the Y-Axis variable is continuous. The discrete (non-continuous) nature of any variable does contribute to the lack of association (correlation) between the variables. The correlation co-efficient  $r = 0.28$  ( $= \sqrt{0.0757}$ ) shows a poor association between the variable (Decision to Purchase) and percentage value at purchase. This poor relationship can be attributable jointly to the discrete nature of the decision to purchase variable

and also that there is, in fact, no reason to believe these two variables are related.

The similar result is also evident when decision to purchase is plotted against percentage value currently as in Figure 4.12 below.

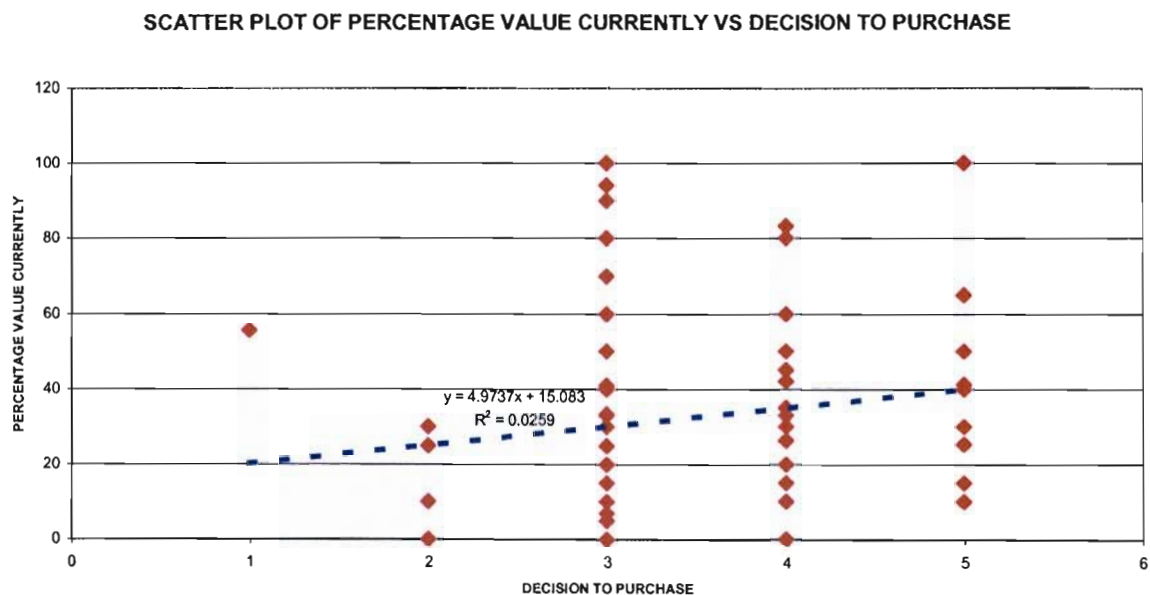


Figure 4.12 - Scatter Plot of Decision to Purchase and Percentage Value currently.

In the figure above  $r = 0.16$  ( $= \sqrt{0.0259}$ ) indicating poor correlation between the variables. This confirms what should have perhaps been intuitively obvious. That there is no relationship between the decision to purchase and the value derived currently from the HOA (or indeed the value perceived at the time of purchase).

The following figures (Figures 4.13 and 4.14 ) indicate the relationship (or lack of!) between income band and (a) value of HOA at the time of purchase (Figure 4.13) and (b) value of HOA currently (Figure 4.14).

SCATTER PLOT OF INCOME VS PERCENTAGE VALUE AT TIME OF PURCHASE

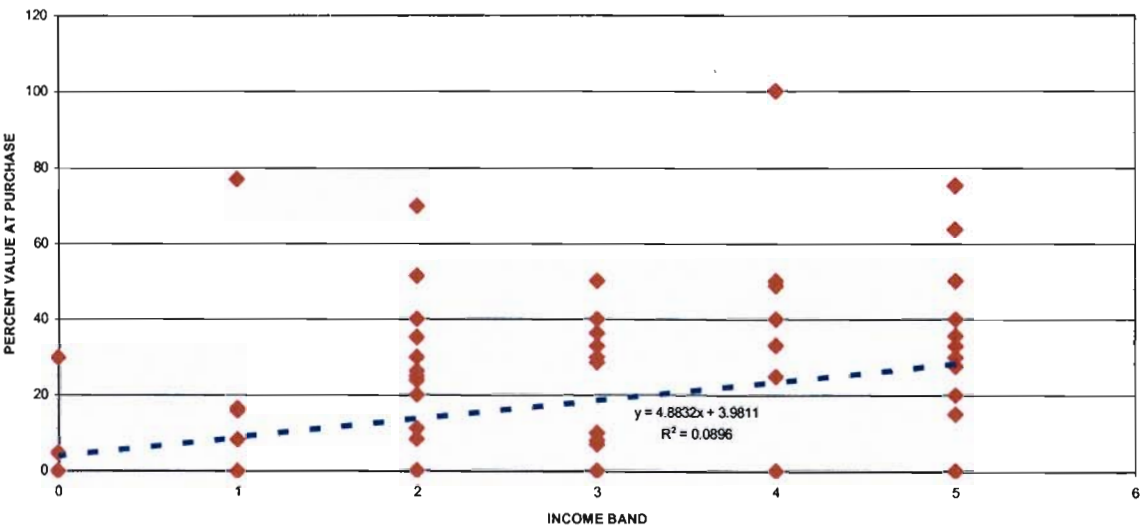


Figure 4.13 - Scatter Plot of Income Band and Percentage Value at Purchase

SCATTER PLOT OF INCOME VS PERCENTAGE VALUE CURRENTLY

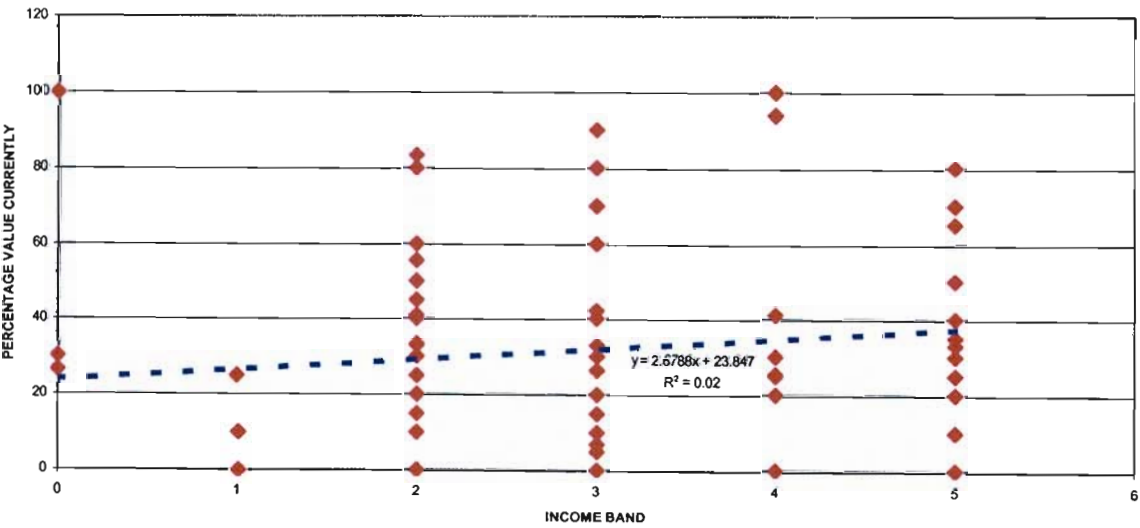


Figure 4.14 - Scatter Plot of Income Band and Current Value of HOA.

The correlation co-efficients for the two figures above are 0.30 ( $= \sqrt{0.0896}$ ) and 0.14 ( $= \sqrt{0.02}$ ), both indicating poor association. It can therefore be deduced that there is not a significant relationship between income band and (a) value of HOA at time of purchase and (b) value of HOA at present.



When the value perceived at time of purchase is plotted against value at present as in Figure 4.15 below, we see that a slighter stronger relationship exists.

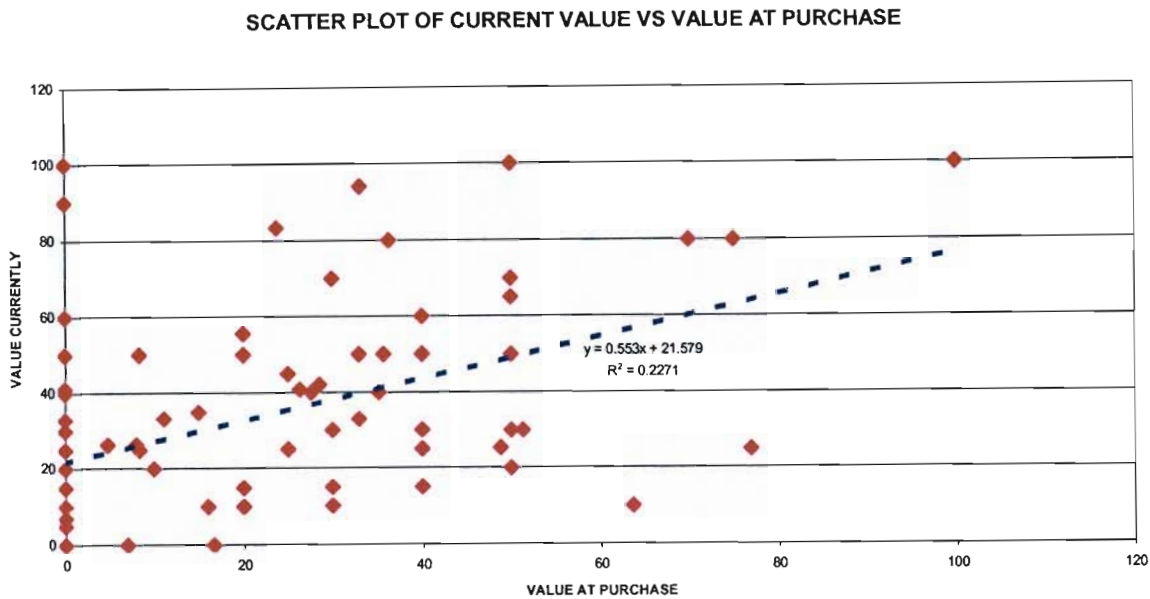


Figure 4.15 - Scatter Plot showing current value and perceived value at purchase.

The correlation co-efficient  $r = 0.48$  ( $= \sqrt{0.2271}$ ) indicates moderate association and various authors (Book, Downie and Arkin & Colton) advise against using a  $r < 0.8$  as a basis of positive association. The assertion that there is only a moderate association between the value of HOA at purchase and value of HOA presently, still however, holds except that trying to make predictions when one variable is known would not be very reliable.

In section 4.2.1, comment was made that the price of land is partly related to the site extent. Estate agents will agree that the price of vacant land is a factor of many variables e.g. views, locations, slope, transportation, amenities, community facilities and to an extent, the size. Figure 4.16 below plots the price of land and site extent for the 93 respondents.



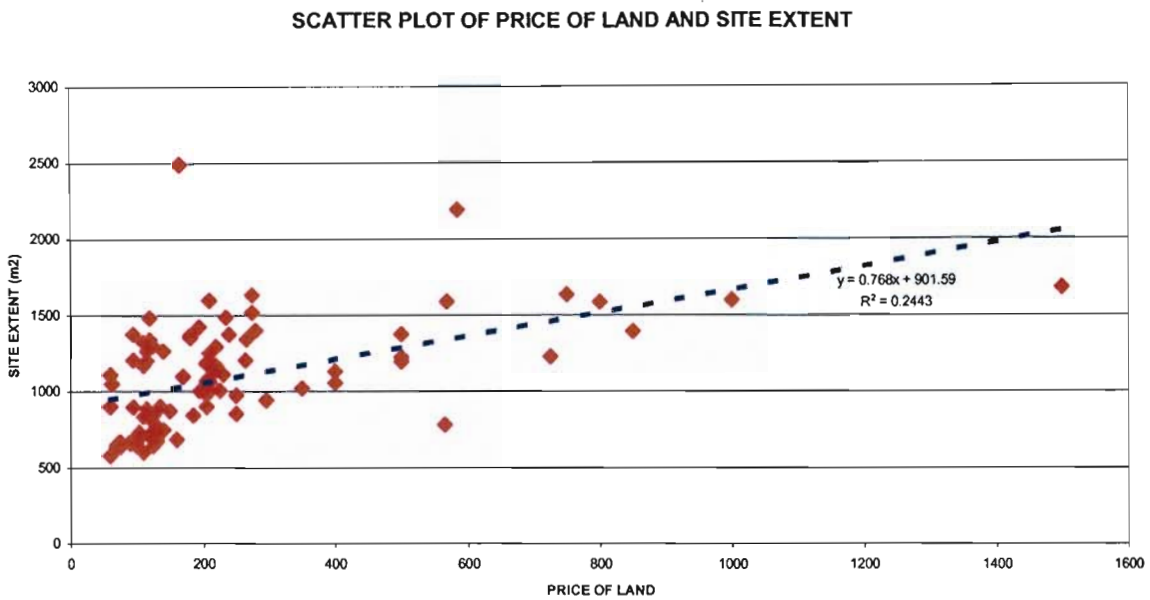


Figure 4.16 - Scatter Plot showing Land Price and Site Extent

The correlation co-efficient of  $r = 0,49 (= \sqrt{0.2443})$  shows a moderate association between land price and site extent which confirms the fact that the site extent is just one factor of many in determining land price.

When one considers the association between land price and market value and enhanced value as indicated in Figures 4.17 and 4.18 below, there is a greater association between the variables.

SCATTER PLOT OF PRICE OF LAND AND MARKET VALUE

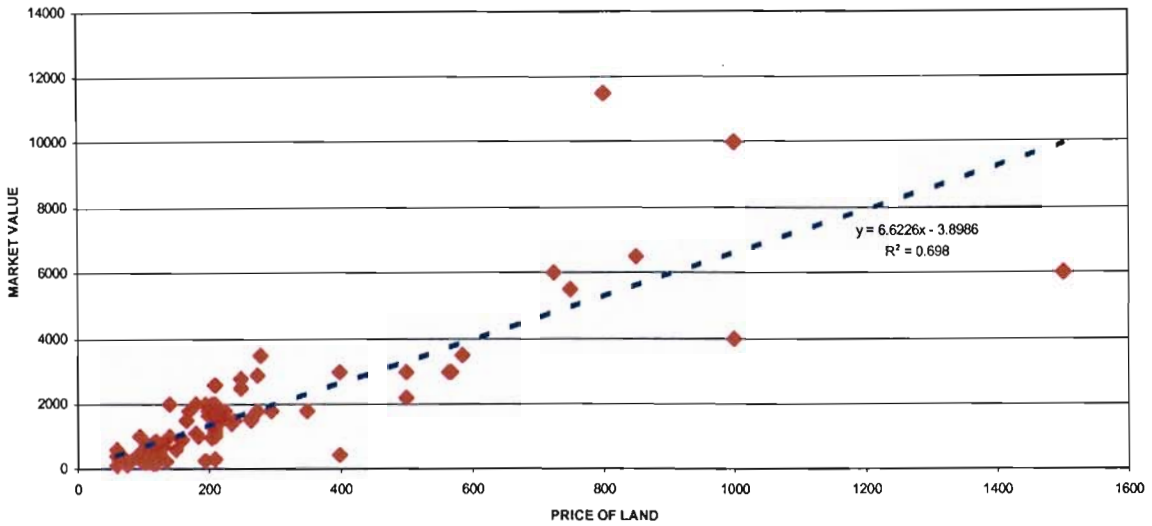


Figure 4.17 - Scatter Plot of Land Price and Market Value

SCATTER PLOT OF LAND PRICE VS ENHANCED VALUE

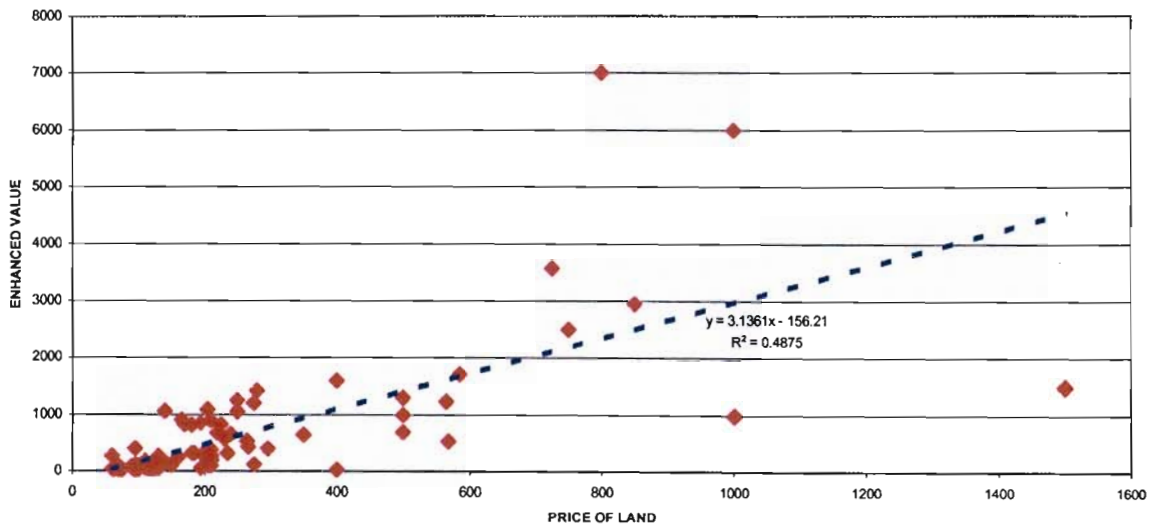


Figure 4.18 - Scatter Plot of Land Price and Enhanced Value

The correlation co-efficients for the relationships in Figures 4.17 and 4.18 are  $r = 0.84$  ( $= \sqrt{0.6980}$ ) and  $0.70$  ( $= \sqrt{0.4875}$ ) respectively which represents a strong and a moderately strong association respectively.

The strength of these associations and the defining of the regression line (line indicated in blue on the scatter plots) enable the predictability of market value

and enhanced value for a given land price. This could also be used by Moreland, as a marketing tool, to predict approximate market value and enhanced value of houses within a certain price range. The first relationship, (land price & market value) is described by the linear equation :

$$y = 6,6226 x - 3,8986 \quad \text{where } x = \text{land price and } y = \text{enhanced value}$$

The second relationship (land price & enhanced value) is described by linear equation :

$$y = 3,1361 x - 156,21 \quad \text{where } x = \text{land price and } y = \text{enhanced value.}$$

For example, assume a site is priced at R250 000 the predicted market value =  $6,6226 (250) - 3,8986 = \underline{\text{R1650 000}}$  and enhanced value =  $3,1361 (250) - 156,21 = \underline{\text{R630 000}}$ .

The market value and enhanced value relationship is indicated in Figure 4.19 below. There is a very strong relationship that exists between these variables and this is evident by the strong correlation co-efficient of  $r = 0,96 (= \sqrt{0.9125})$ . This strong relationship is also visually apparent.

SCATTER PLOT FOR ENHANCED VALUE AND MARKET VALUE

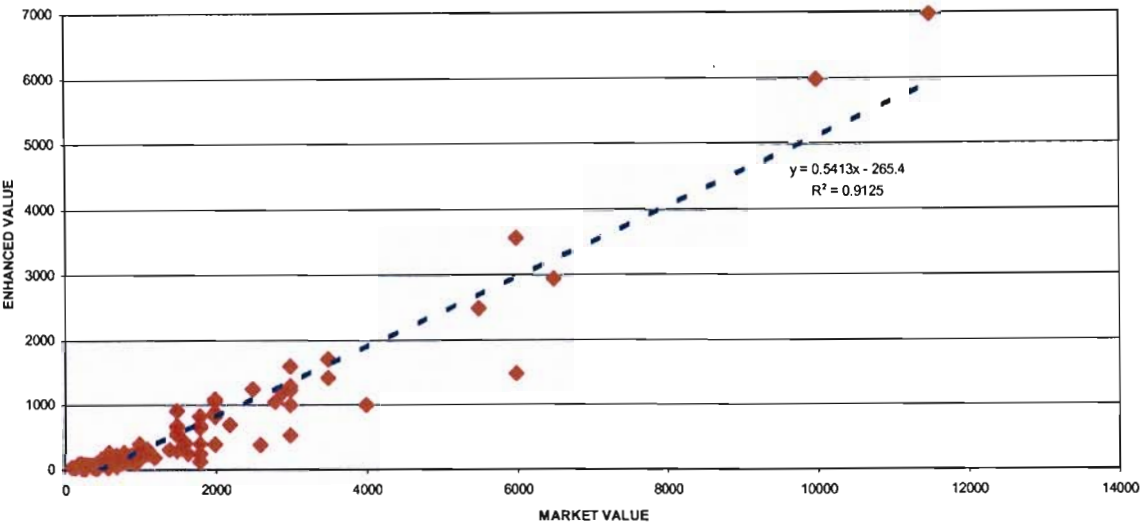


Figure 4.19 - Scatter Plot of Market Value and Enhanced Value

Furthermore, the relationship between construction cost and market value (see Figure 4.20 below) shows strong correlation with  $r = 0,93$  ( $= \sqrt{0.8702}$ ). This is explained by the fact that the enhanced value obtained when a property is sold is usually linked to how well developed a property is, the latter being a function of the construction cost.

SCATTER PLOT OF MARKET VALUE AND CONSTRUCTION COST

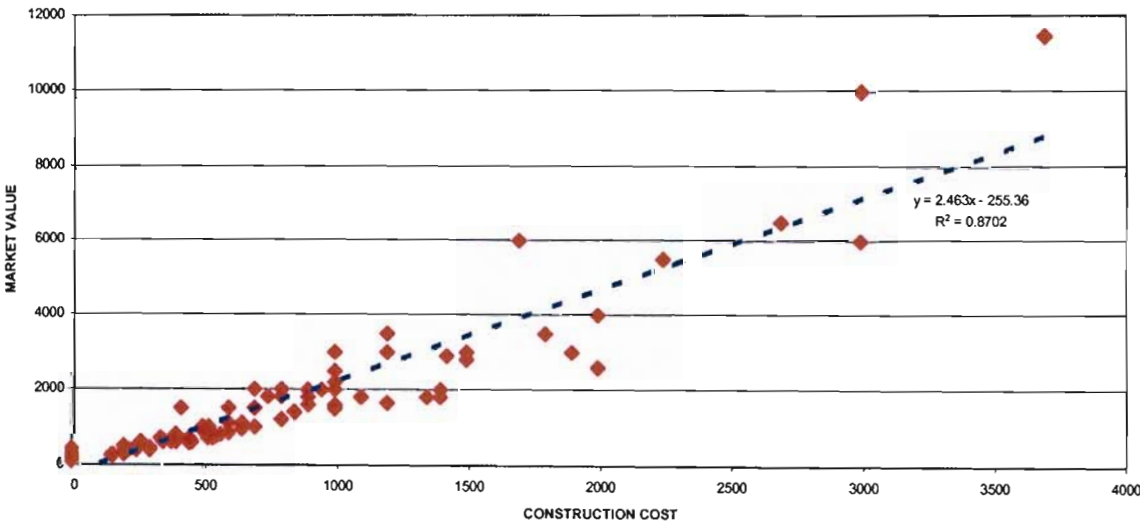


Figure 4.20 – Scatter Plot of Market Value and Construction Cost

The whole issue of land price, construction cost, market value and enhanced value and the relationship (correlations) described above becomes clearer when these variable are linked to form the following equations : -

$$\text{Market Value} = \text{Land Price} + \text{Cost of Construction} + \text{Enhanced Value}$$

### 4.3 SUMMARY

This chapter covers the analysis of the descriptive statistics of the data received from the 93 respondents. The need for the various trends enables the understanding of the residential property market and more specifically the HOA value issues related to this market.

Various data sets were plotted and discussed. The most pertinent trends are listed below : -

- There appears to be, in the main, a proportional relationship between site extent and land price.
- There appears to be a relationship between previous knowledge of HOA and previous ownerships of townhouses or flats which would have exposed respondents to a HOA / Body Corporate type environment.
- The effect of the presence of HOA on the decision to purchase vacant land has high percentages of “No Effect” and “Positive Effect” scores. The significance of these results will be examined further in Chapter 5.
- As the complexity of the project increases (i.e. from Broadlands to Somerset Park to Gardens to MECCE to Zimbali), so does the land price, construction costs, market value and enhanced value.
- The value of the HOA at the time of purchase also increases as the project complexity increases. The same trend is evident for value of HOA that respondents currently perceive. In the main, the value of the HOA that respondents currently perceived is greater than the value at the time of purchase.

- The main drivers of value given by respondents are security, architectural theme, landscaping, environment, communication and rules and regulations.
- For the less-complex projects (Somerset Park and Broadlands) the main drivers of value of the HOA are architectural theme and rules and regulations.
- For the more-complex projects, (Gardens, MECCE and Zimbali) the main drivers of value of the HOA are security and architecture. Furthermore the remaining drivers of value, which were almost insignificant in Broadlands and Somerset Park, become more significant for these projects.
- The main drivers of value for future purchase in a HOA are similar for each project to their “at purchase” drivers of value.
- The average age also increases, in the main, as the project becomes more complex.
- The majority of respondents in each project would consider buying their next property in an area that is administered by a HOA.
- The scatter plots reveal that there is a very poor association (correlation) between the following variables when they are permutated against each other : Decision to Purchase, income band, percentage value of HOA at purchase, percentage value of HOA currently.
- The scatter plot also confirms that there is a moderate correlation between land price and site extent.
- Strong correlations were obtained when the following variables were permutated against each other: Land price, Market Value, Construction Costs and Enhanced Value. This strong relationship is also confirmed by the following equation : - Market Value = Land Price + Construction Cost + Enhanced Value.

Attention now will be turned to Chapter 5 where the analytic statistical analysis of the data will be discussed.

## CHAPTER 5 – REPORTING AND DISCUSSION OF RESULTS – DESCRIPTIVE STATISTICAL ANALYSIS

*“Everybody believes in the normal distribution, the experimenters because they think it is a mathematical theorem, the mathematicians because they think it is an experimental fact.”...C F Gauss*

### 5.1 Introduction

This chapter will deal with the analytical statistical treatment of data. The types of data obtained from the telephonic survey comprised nominal, order, internal and ratio. Nominal and order data types lends itself to descriptive statistical analyses. The internal and ratio data lends itself to more complex statistical analysis that would enable inferences to be drawn from sample statistics about population parameters. This chapter will focus on this type of statistics.

The first important step is to establish the way in which data is distributed. If the distribution has an approximately normal shape then standard statistical tests can be applied to the data. Once the distribution types are established, the types of significance tests will be determined.

Confidence intervals for population means and standard deviations will be established for both null hypotheses. The hypotheses will then be tested at the 95% level of confidence to establish if the null hypotheses must be rejected or not.

The Coleman Technique will then be applied to the main drivers of value within a HOA to establish which particular added value items produced greater or lesser effects.

## 5.2 Distribution Types

The above quotation is indeed a testament of the interdependency between mathematicians and experimenters. The normal distribution also referred to as the Gaussian Distribution, is a derivation of a simple binomial distribution for a large number of observations. The normal curve (graph representing this distribution) is peculiar for 2 reasons. Firstly it is symmetrical and secondly, the area under the curve equals 100%. The symmetrical nature of the curve is referred to as its skewness and its peakedness is described as being mesokurtic. In the real world however, it is almost impossible to find distributions that take on the absolute form of the normal distribution. Errors enter statistical analysis to the extent that the real distributions differ from the normal. For statistical purposes, if a distribution exhibits the general shape of the normal curve with slight deviations from symmetry and peakedness, then the distribution is assumed to be normal.

To reiterate the hypotheses :-

$H1_0$  – The presence of a HOA has no effect on the decision to purchase vacant land.

$H1_A$  – The presence of a HOA will effect a decision to purchase vacant land

$H2_0$  – The presence of a HOA will not allow Moreland to command a price premium on the sale of vacant land.

$H2_A$  – The presence of a HOA will allow Moreland to command a premium on the sale of vacant land.

The data that is relevant to reject / not reject these hypotheses is compared against a “normal” distribution. Figure 5.1 below indicates the distribution of data for question on decision to purchase. The responses were plotted on a Lickert Scale with 1 = Highly Negatively, 3 = No Effect and 5 = Highly Positively.



### FREQUENCY DISTRIBUTION - DECISION TO PURCHASE

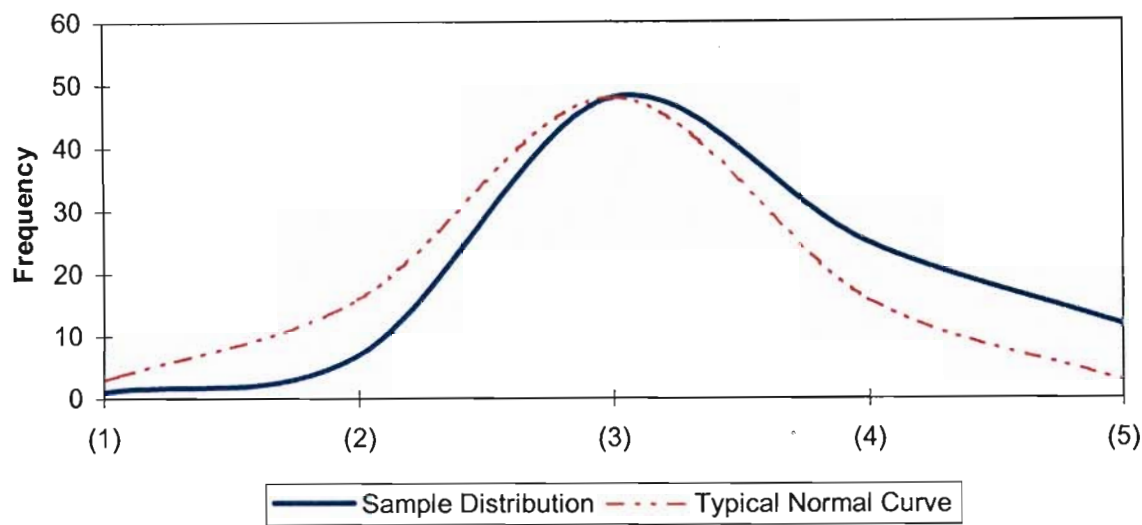


Figure 5.1 - Frequency Distribution for Full Sample

As can be seen the shape of the distribution varies slightly from a typical normal distribution and we can therefore assume normal distribution of the data when the full sample is considered.

When the individual stratified samples are examined for distribution patterns, assuming normal distributions for all stratified samples may be optimistic. This is indicated in Figure 5.2 below which shows that some samples do exhibit normal behaviour and some samples do not. The deviation from normality can be attributed to the small sample sizes (less than 30) for the stratified samples.

## FREQUENCY DISTRIBUTIONS

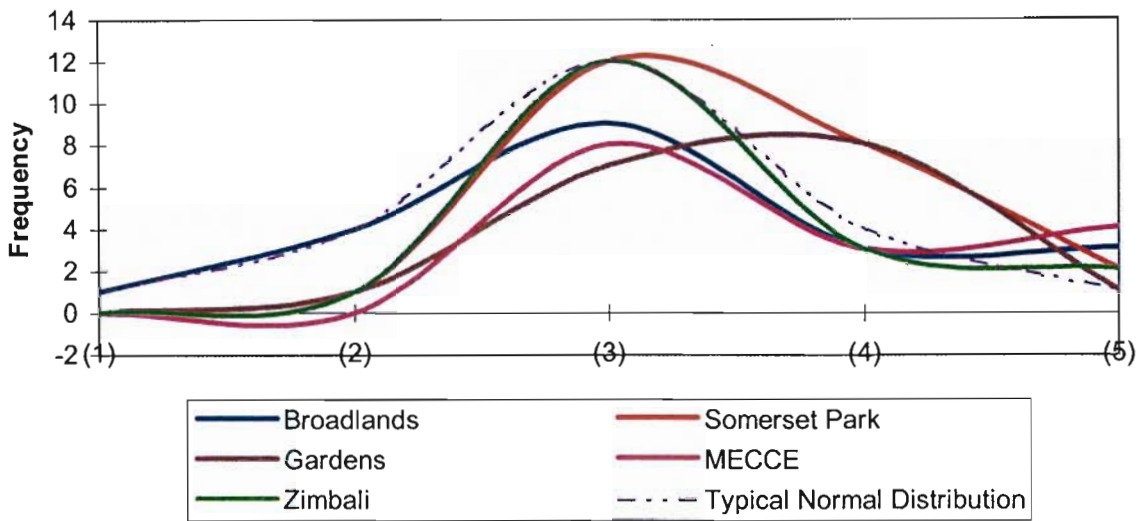


Figure 5.2 - Frequency Distribution for Sub-Samples

Downie (1974) suggests that the normal distribution can be used for sample size greater than 30 (referred to as a z-distribution) but for sample sizes less than 30, the distribution of z departs from normal and the t-ratio (or Student's-t) is used in evaluating statistical results. The data derived from respondents fit both Downies assertions. When the full sample is considered (sample size (N) = 93), the distribution bears a normal resemblance and when the stratified sample is considered, (all less than 30) the distributions tend, in the main, to deviate from normal.

The writer will therefore use the z-distribution (normal) when analysing the full sample and use t – distribution when analysing the stratified samples.

### 5.3 Confidence Intervals

The four data types (viz. nominal, ordinal, interval and ratio) enables different levels of manipulation of the data. Nominal and ordinal data are fairly limiting in that they merely describe the trends in the data. This field of

analysis is called descriptive statistics and was covered in some detail in Chapter 4 of this document. Interval and Ratio data, however, enables more complex statistical techniques to be applied and the more parsimonious models can be applied to the data. Furthermore, this data also enables inferences to be made from the current data. The first type of inference the writer will make will be confidence intervals for the population mean ( $\mu$ ) and standard deviation ( $\sigma$ ). The second type of inference will be the testing of hypotheses to establish significance of the data sets.

Book (1997) and Downie & Health (1974) advise the use of the following equation for estimating the population mean interval using a z-distribution (normal) :

$$x' - z_{\alpha/2} \cdot s / \sqrt{n} < \mu < x' + z_{\alpha/2} \cdot s / \sqrt{n} \quad \dots\dots\dots 1$$

Where  $x'$  is the sample mean,  $s$  is the sample standard deviation,  $n$  is the sample size and  $z_{\alpha/2}$  is the standard score for a confidence level of  $(1 - \alpha)$  100% i.e an error of  $\alpha$ .

Book (1977) further advises that for small samples ( $n < 30$ ), the following equation is used for estimating the population mean interval, this time using the t – distribution as discussed earlier.

$$x' - t_{\alpha/2(n-1)} \cdot s / \sqrt{n} < \mu < x' + t_{\alpha/2(n-1)} \cdot s / \sqrt{n} \quad \dots\dots\dots 2$$

Where the variables are as previously stated and  $t_{\alpha/2(n-1)}$  is the t -score for a confidence level of  $(1-\alpha)$  100% (i.e error of  $\alpha$ ) with  $(n - 1)$  degrees of freedom.

The first null hypotheses confidence interval for the means are indicated in Figure 5.3 below, using equation (1) above for the full sample and equation (2) above for each stratified sub-sample.

GRAPH SHOWING CONFIDENCE INTERVALS FOR THE MEANS - HYPOTHESIS 1

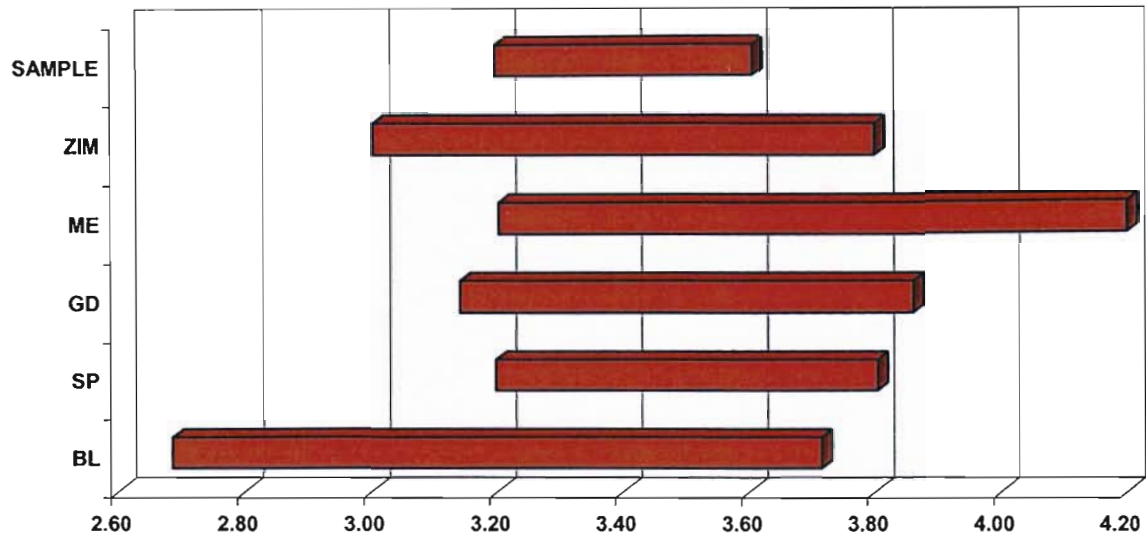


Figure 5.3 - Confidence Intervals for Sample and Population Mean – Hypothesis 1

The second null hypotheses confidence intervals for the means are indicated in Figure 5.4 below using equations (1) and (2) for the full sample and stratified sub-samples respectively.

GRAPH SHOWING CONFIDENCE INTERVAL FOR THE MEAN - HYPOTHESIS 2

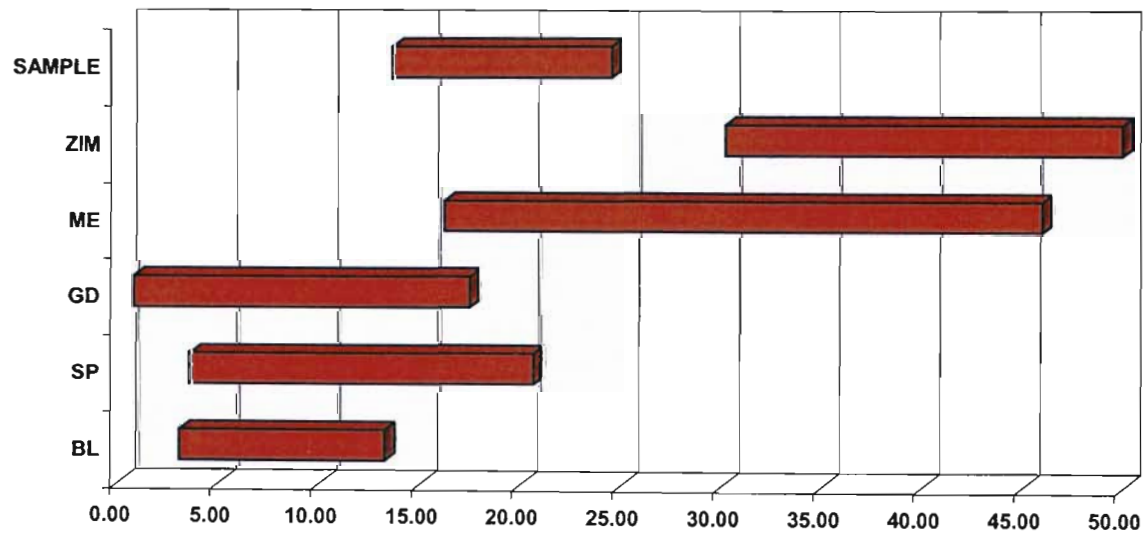


Figure 5.4 - Confidence Intervals for Sample and Population Mean - Hypothesis 2

Book (1977) also indicates the use of the following equations to estimate the confidence intervals range for the standard deviations

For Large Samples :-

$$\frac{s}{1 + z_{\alpha/2}/\sqrt{2n}} < \sigma < \frac{s}{1 - z_{\alpha/2}/\sqrt{2n}} \dots\dots\dots 3$$

Where the variables are as listed previously and is the population standard deviation.

For Small Samples

$$\frac{\sqrt{(n-1).s^2}}{\sqrt{\chi^2_{\alpha/2(n-1)}}} < \sigma < \frac{\sqrt{(n-1).s^2}}{\sqrt{\chi^2_{1-\alpha/2(n-1)}}} \dots\dots\dots 4$$

When  $\chi^2$  is the standard score on a  $\chi^2$  (kye – square) distribution with (n – 1) degrees of freedom.

The first null hypotheses confidence intervals for the sub-sample and population standard deviations (s and  $\sigma$ ) are indicated in Figure 5.5 below.

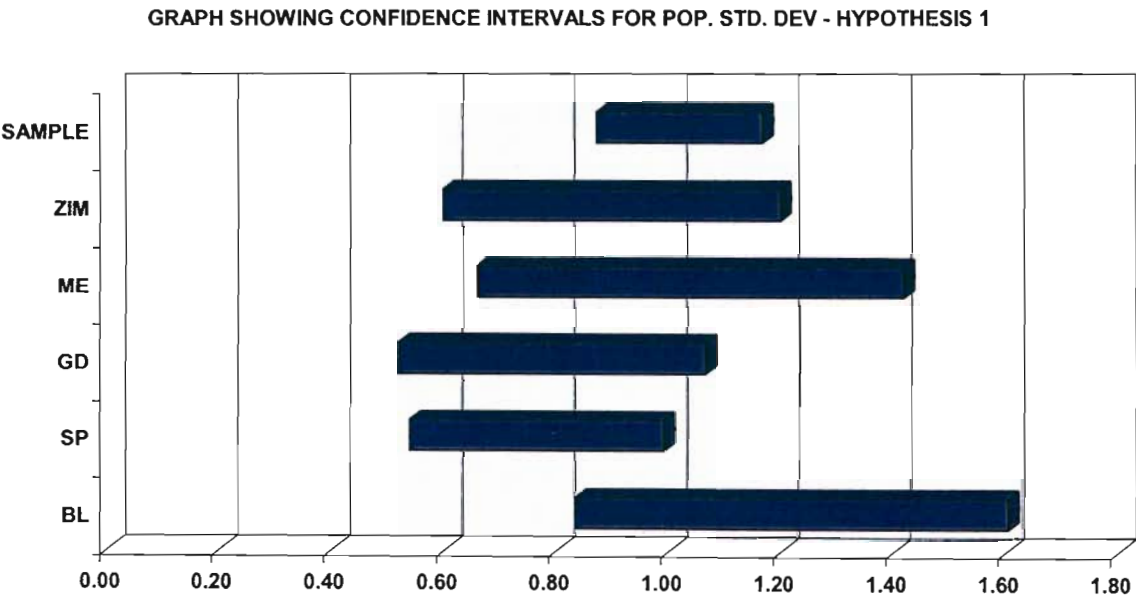


Figure 5.5 - Confidence Intervals for Sample and Population Standard Deviation – Hypothesis 1.

The population standard deviation shows a smaller range (i.e 0,87 to 1,17) than the other sub-sample standard deviations indicating less variance from the mean result. This is also theoretically evident by the equation for standard deviations which shows an inversely proportional relationship between standard deviation and sample size :-

$$\sigma = \frac{\sum (x - x')^2}{(n-1)}$$

Figure 5.6 below indicates the confidence intervals for the standard deviation for hypothesis 2 shows the same trend.

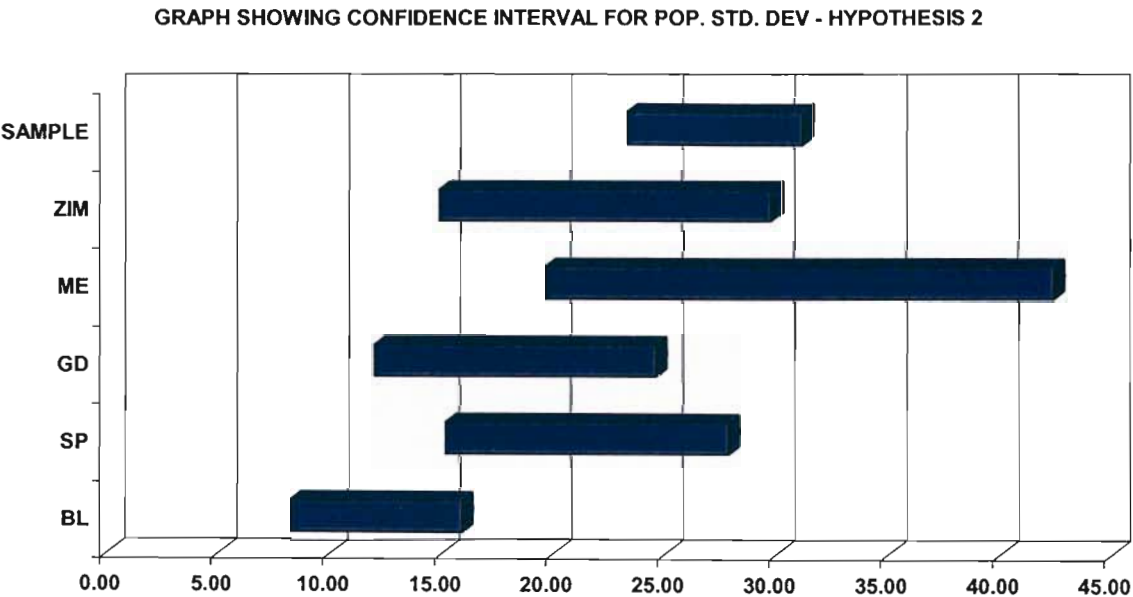


Figure 5.6 - Confidence Intervals for Sample and Population Standard Deviation – Hypothesis 2

Here again the interval for the population is smaller than those of the individual sub-sample standard deviations with exception of Broadlands which has a smaller standard deviation (and variance) in the results.

The power of the significance tests enables the inferences of the means and standard deviations of the “populations” of Broadlands , Somerset Park, Gardens, MECCE, and Zimbali as well as for overall population.

When considering Hypothesis 1 the confidence interval for Broadlands population mean ranges from 2.69 to 3.70. Since 3.0 represents the “no effect on decision to purchase”, we are still unsure about the overall population as the range straddles 3.0. However for the remaining sub-strata, the interval ranges all exceed 3.0 implying a positive effect on the decision to purchase.

When the full consolidated sample is considered, the population mean interval ranges from 3.20 to 3.60 implying the overall decision to purchase is positively affected by the presence of a HOA.

## 5.4 Hypothesis

Null Hypothesis 1 - *The presence of HOA has no effect on the decision to purchase vacant land.*

This hypothesis will be tested for the full sample (N = 93) and for each stratified sub-sample to ascertain whether the hypothesis holds for full sample and / or each sub-sample. The level of confidence that the writer requires is 95%.

As explained earlier, the z-test will be used for the full sample. The z-score will be calculated using the following equation.

$$z = \frac{x' - \mu}{s / \sqrt{n}}$$

The critical z-score ( $z_{crit}$ ) value will be obtained from the standard scores tables. The z-score obtained from the above equation will be compared with the critical z-score. The null hypothesis is rejected at the given confidence level if  $z > z_{crit}$ . The null hypotheses is not rejected at the given confidence level if  $z < z_{crit}$ .

Using  $x' = 3.4$  ,  $\mu = 3.0$  ,  $s = 1.0$  and  $n = 93$  for the full sample get  $z = 3.86$ .

At the 95% level of confidence (i.e.  $\alpha = 0,05$  or 5%),  $z_{crit} = 1,96$ .

Since  $z > z_{crit}$  , this implies that the null hypothesis is rejected at the 95% level of confidence. This means that we are 95% confident that the presence of the HOA has no effect on decision to purchase vacant land. There is however, a 5% chance that we rejected a hypothesis that should not have been rejected. This 5% error (called  $\alpha$ ) is a level that is acceptable for research of this type and in this field of study.

(Aside : if however, the writer had chosen a higher level of confidence (99% say) then the new  $z_{crit} = 2,33$  (obtained from standard scores table for normal distribution). Since the z-score for the full sample is equal to 3,86 which is greater than 2,33 we find that the null hypotheses will be rejected at the 99% level of confidence as  $z = 3,86 > z_{crit} = 2,33$ .)

To test this hypothesis on the individual sub-samples, the  $t$  – test is used as size of each sample does not exceed 30. The  $t$  – score will be calculated using the following equation and a 95% level of confidence will be used (i.e. 5% error) :

$$t_{\alpha/2(n-1)} = \frac{x' - \mu}{s / \sqrt{n}}$$

The results are tabulated in Table 5.1 below:-

	BL	SP	GD	MECCE	ZIM
$t_{crit}$	2.093	2.074	2.120	2.145	2.110
$t_{calculated}$	0.813	3.426	2.945	3.012	2.121
Reject / Don't Reject	Don't Reject	Reject	Reject	Reject	Reject

Table 5.1 Hypothesis 1 - Results Summarised.



From the table above, it can be seen that the null hypotheses is rejected ( $t > t_{crit}$ ) for all sub-samples except for Broadlands. For Broadlands we can therefore say, with 95% confidence, that the presence of HOA has no effect on the decision to purchase. For Somerset Park, Gardens, MECCE and Zimbali, however, we can say, with 95% confidence, that the presence of HOA did effect the decision to purchase.

To summarise the discussion on Hypothesis 1, the significance test proved that for Broadlands, the null hypothesis is not rejected and for the remaining projects and for the overall population the null hypothesis is rejected at the 95% level of confidence i.e. the decision to purchase vacant land was affected by the presence of a HOA. For these projects (i.e. all except Broadlands), the confidence intervals at the 95% level of confidence all exceed 3.0. Since the Lickert Scale was designed with "No Effect" = 3 and "Positively Effectuated" = 4, we can deduce that the decision to purchase vacant land was positively effected by the presence of a HOA in all projects except Broadlands.

Null Hypothesis 2 : *The presence of HOA will not allow Moreland to command a price premium on the sale of vacant land.*

The full sample will be tested first using a z- distribution test and the t – test will be applied to the sub-samples as in hypothesis 1.

Using  $x' = 19\%$ ,  $\mu = 0$ ,  $s = 26,7\%$  and  $n = 93$  for the full sample, get  $z = 6,86$ .

At the 95% level of confidence (i.e.  $\alpha = 0,05$  or 5%) get  $z_{crit} = 1,96$ .

Since  $z > z_{crit}$ , the null hypothesis is rejected at this level of confidence. This means that the presence of HOA will enable Moreland to command a price premium on the sale of vacant land. We are 95% confident of this statement.

(Aside : Assuming that the writer had chosen a higher level of confidence, (99% say), then the new  $z_{crit} = 2,33$ . Since  $z = 6,86 > z_{crit} = 2,33$ , the null hypothesis is rejected at the 95% level of confidence as well.)

Using the t – test on the sub-samples, the results, are tabulated in Table 5.2 below :

	BL	SP	GD	MECCE	ZIM
$t_{crit}$	2.093	2.074	2.120	2.145	2.110
$t_{calculated}$	3.282	2.921	2.291	4.463	8.528
Reject / Don't Reject	Reject	Reject	Reject	Reject	Reject

Table 5.2 Hypothesis 2 - Results Summarised.

From the table above it can be seen that the null hypotheses is rejected for all sub-samples at the 95% level of confidence, i.e. Moreland can command a price premium on the sale of vacant land.

To summarise the discussion on hypothesis 2, the significance tests proved that the null hypothesis is rejected, at the 95% level of confidence, for all projects populations including the overall population implying that Moreland can command a price premium on the sale of residential vacant land due to perceived value at time of purchase.

To quantify this price premium, the confidence intervals for the project populations must be considered.

In the Broadlands project, at the 95% level of confidence, Moreland can in theory add a price premium of between 3% and 13% on the price of an

equivalent piece of land that was not administered by a HOA. However, since Hypothesis 1 was not rejected at this level of confidence, implying that the Broadlands market do not see value and hence did not affect their decision to purchase, Moreland would not, in reality, be able to charge this premium.

For the remaining projects, however, Moreland can add a price premium of percentages ranges indicated in Figure 5.4 as the remaining projects all rejected Hypothesis 1 implying that the presence of HOA did (positively) affect decision to purchase. Moreland can charge this premium as a prospective purchaser sees value in the presence of a HOA.

In overall terms, Moreland could argue that an average premium (over all projects) of between 13,5% and 24,5% can be added to price of land (if this price is based on vacant land not administered by a HOA). The fact that Hypothesis 1 was rejected for the overall population, implies that the prospective buyers decision are positively affected by the presence of a HOA.

## **5.5 Coleman Technique**

Another form of analysis that the writer has decided to explore is a method known as the "Coleman Technique". This technique was developed by James S Coleman in his book. "Mathematical Sociology". This method of analysis is used for imposing vigour to multi variate data and attempts to establish additive, multiplicative and interactive effects to dichotomous data sets. The scope of this study does not lend itself to multiplicative and interactive effects and therefore only additive effects will be examined in details. Furthermore, as some of the data is not dichotomous in nature, the data will be reduced to dichotomy for the purpose of this analysis.

The objective of this analysis to try and separate the various contributions that add value to a HOA. These value added constructs are security, architect,

landscaping, environment, communication and rules and regulations. The beauty of this technique lies in its simplicity and efficiency. A fairly straightforward calculation determines the individual effects of each value-added constructs. Furthermore, these value added constructs can be compared during the “at purchase” situation and the “current” situation to see if the effects had strengthened , weakened or remained the same.

Since there are five sub-strata within the full sample, and since three of these sub-strata (projects) are gated estates and two are not, to achieve dichotomy, the three gated projects were grouped as one (i.e. Zimbali, MECCE and Gardens) and the two non-gated projects were grouped as one (i.e. Somerset Park and Broadlands).

There are five income bands which are arbitrarily split in bands 1 and 2 (i.e. R0 - R10 000 and R10 000 - R20 000 gross monthly household incomes) and bands 3, 4 & 5 (R20 000 - R30 000, R30 000 - R40 000 and over R40 000 gross monthly household incomes). This gives two bands of R0 - R20 000 and R20 000 upwards. Each value added construct will then be tested individually against both the income and project effects.

The result of the test can be located in the Appendix to this document.

5.5.1 Architectural Theme

The extract of the results of this test is tabulated below :

		Project Effect (%)	Income Effect (%)	Arch. Effect (%)
HOA Value	At Purchase	17.4	-2.7	5.2
	Next Purchase	18.3	-4.1	15.2

Table 5.3 – Coleman Effects for Project, Income and Architectural Theme

The value that the respondents placed on the architectural theme of the area at the time of purchase obtained a moderate score of 5,2%. A score of 17,4% for project effect shows that at the time of purchase, the perceptions of value lay in the project and not in either the architectural theme or income class. The negative value on the income class show that the income orientation of the respondents did not add to the perceptions of value of the HOA at time of purchase.

The “next purchase” item was phrased as such to overcome negative feelings that respondents may be feeling to try and ascertain where the drivers of value stemmed from. To simplify understanding one could interpret this as the respondents current perceptions of value creators. (If the question was asked as to the current feelings towards value creators, and say that the architectural theme in that particular area was not being vigorously enforced, then the respondent is likely to have negative perceptions and therefore the results would be biased).

Clearly under the “next purchase” scaenario, respondents across the spectrum perceived an increase in value due to architectural theme. The income effect is even less than in the “at purchase” scenario. The project effect is, however, still dominant.

The increase in the architectural effect from the time of purchase to the present time, indicates that the benefit of the architectural theme increases once respondents have experienced the life style of living in an area with an architectural theme. They would therefore value the architectural theme more if they were to purchase again.

The dominance of the project effect in both the “at purchase” and “next purchase” scenarios clearly underlines the fact that the location of land is the main driver of value in the minds of respondents.

5.5.2 Landscaping

The extract of the results of this test is tabulated below :-

		Project Effect (%)	Income Effect (%)	Land. Effect (%)
HOA	At Purchase	19.7	-2.2	5.8
Value	Next Purchase	28.0	-3.1	-11.6

Table 5.4 – Coleman Effects for Project, Income and Landscaping

The value that respondents placed on the landscaping theme at the time of purchase obtained a moderate score of 5,8%. As above the income effect is negative indicating income orientation of the respondents did not add to the perceptions of value of the HOA at time of purchase. The dominant effect, at the time of purchase, is a project effect (19,7%).

Having experienced the HOA, respondents perception about the landscaping issues diminished considerably (-11,6) and the negative value indicated that it actually detracts from value of HOA. This reason for this change of perception could be twofold. Firstly that the expectations at time of purchase were too high, and since these expectations were not met, the perceptions of its value diminished. The second reason could possibly be that the HOA is not managing the landscaping component of its portfolio well. The project effect in the “next purchase” scenario is again dominant underlining the location effect is the main driver of value in the minds of the respondents.

5.5.3 Environmental

The extract of the result of this test is tabulated below :-

		Project Effect (%)	Income Effect (%)	Enviro. Effect (%)
HOA	At Purchase	32.8	-8.9	8.7
Value	Next Purchase	36.6	-7.1	2.4

Table 5.5 – Coleman Effects for Project, Income and Environment

The value that respondents placed on the general environment (upkeep and maintenance) at the time of purchase obtained a moderate score of 8,7%. As above the income effect is negative indicating income orientation of the respondents did not add to the perceptions of value of the HOA at time of purchase. The dominant effect at the time of purchase is clearly the Project Effect (32,8%).

Having experienced the HOA and its value creation activities, the respondents perception of general environment issues diminished to just 2,4%. The fact that the score is positive indicates that there is value creation, albeit less that of the time of purchase. The dominant effect in the “next purchase” scenario is again the project effect clearly underlining the fact that this is the main driver of value in the minds of respondents.

#### 5.5.4 Communication

The extract of the results of this test is tabulated below :-

		Project Effect (%)	Income Effect (%)	Comm. Effect (%)
HOA	At Purchase	15.6	5.5	-12.8
Value	Next Purchase	3.8	17.1	-12.3

Table 5.6 – Coleman Effects for Project, Income and Communication

The value that respondents placed on the communication effect at the time of purchase obtained a score of -12,8%. This can possibly be attributed to the fact that at the time of purchase, the nature of the communication was not well

understood and therefore this item was not seen as adding value. The dominant effect at the time of purchase is clearly the project effect.

Having experienced the HOA and its value creation activities, the respondents perception score maintained its value (approximately) from the time of purchase. The reason for this is possibly twofold. Firstly the nature of communication may not have been well understood resulting in low scores and secondly the HOA may have a poor record for communicating to the owners.

5.5.5 Rules and Regulations

The extract of the results of this test is tabulated below : -

		Project Effect (%)	Income Effect (%)	R & R. Effect (%)
HOA	At Purchase	17.5	-2.3	2.4
Value	Next Purchase	21.4	-4.7	11.7

Table 5.7 – Coleman Effects for Project, Income and Rules and Regulations

The value the respondents placed on the rules and regulations of the area at the time of purchase obtained a moderate score of 2,4%. A score of 17,5% for the project effect shows that at the time of purchase, the perceptions of value creation was in the project itself and not the rules and regulations.

Under the “Next Purchase” scenario, the rules and regulations effect score increased to 11,7% as respondents experienced the effect of value that the enforcement of the rules and regulations have. Even though there is an increase in the rules and regulations effect, the dominant effect in the “next purchase” scenario is again the project effect.



5.5.6 Security Effect

When the data supplied thus far is looked at holistically, it is clear that although the other effects (i.e. architectural theme, landscaping, environment, etc.) vary within a moderate score range, the project effect in almost all cases is a dominant effect both for the “At Purchase” and “Next Purchase” scenarios. It is fair to say that the project effect supersedes all other value creation activities of the HOA.

The property industry notes that there are three important things when investing in property “Location !, Location ! and Location !”. This is confirmed by the above.

The extract of the results for the security effects are tabulated below :

		Project Effect (%)	Income Effect (%)	Secur. Effect (%)
HOA	At Purchase	8.0	-2.1	11.1
Value	Next Purchase	0.7	-0.6	20.1

Table 5.8 – Coleman Effects for Project, Income and Security

The value that the respondents place on the security effect at the time of purchase obtained a high score of 11,1% showing that this issue is of critical importance when investing in property. This score exceeds the project effects score of 8,0% at the time of purchase. For the first time, we see that the project effect is not the main driver of value at the time of purchase and this mantle is now worn by security.

The score of 11,1% for security effect has increased to 20,1% (significantly higher !) for the “next purchase” scenario. This is perhaps because of the high crime rate prevalent in this country and the low punishment rate inflicted on perpetrators of crime, that homeowners would first consider security and then consider the location. Again for the first time we see that the project is

not the main driver of value at the “next purchase” scenario and this mantle is worn by security.

This is a startling revelation: - Security is more important than location in choosing to invest in property. Perhaps the new property industry motto should be “the three most important things when considering investing in property is Security, Location and Location!”.

## **5.6 Summary**

The distribution for the full data (full sample) and for each sub-sample was plotted to establish whether they exhibited a normal shape. For the large sample the distribution was approximately normally distributed and therefore the z-Distribution (normal) was used for confidence interval establishment and hypothesis testing. Since the individuals sub-sample sizes did not exceed 30 and distributions deviated from normal, the Student – t test was used for confidence interval establishment and hypothesis testing.

A level of confidence of 95% was decided on as it was used by researchers in this field of study. The confidence intervals for the sub-strata populations as well as for the overall population were calculated for the means and standard deviations.

When considering Hypothesis 1, the confidence interval for Broadlands population mean ranges from 2.69 to 3.70. Since 3.0 represents the “no effect on decision to purchase”, we are still unsure about the overall population as the range straddles 3.0. However for the remaining sub-strata, the interval ranges all exceed 3.0 implying a positive effect on the decision to purchase.

When the full consolidated sample is considered, the population mean interval ranges from 3.20 to 3.60 implying the overall decision to purchase is positively affected by the presence of a HOA.

Hypothesis 1 was tested for the full sample and was found to be rejected at the 95% level of confidence. Hypothesis 1 was also rejected at the sub-strata level for all projects except Broadlands.

It can therefore be stated , with 95% confidence, that the presence of a HOA had an effect on the decision to purchase vacant land for all projects (including the overall population) except in Broadlands where there was no effect on decision to purchase. Also, in all projects except Broadlands the confidence interval for populations means for each project exceed 3,0 implying that there was a positive effect on decision to purchase.

Hypothesis 2 was tested both for the full sample and for each sub-strata and found, at the 95% confidence level, to be rejected implying that Moreland can charge a price premium on the sale of vacant land.

The value of the price premium in Broadlands is between 3% and 13% which is given by the confidence interval of the Broadlands population mean for hypothesis 2. However, since hypothesis 1 for Broadlands was not rejected implying that the presence of HOA did not effect the decision to purchase, Moreland would not, in real terms, be able to charge this premium in practice.

It must be noted that the price premium referred to is the extra price that is charged when compared to an equivalent site in an area not administered by HOA.

The following price premium ranges can be applied to the following projects :

Somerset Park	-	4%	to	20%
Gardens	-	1%	to	17%
MECCE	-	16%	to	45%
Zimbali	-	30%	to	50%
Overall	-	13.5%	to	24.5%

As the above projects showed in Hypothesis 1 that the presence of HOA did affect the decision to purchase and since the confidence intervals for these projects all exceed 3,0 it implies that their decisions were positively affected. Moreland would then be able to charge a premium as the prospective purchase decision would be positively affected by the presence of a HOA and the quantum of the added value would fall within the ranges listed above.

## CHAPTER 6 – RECOMMENDATIONS AND CONCLUSIONS

### 6.1 Introduction

The Residential department at Moreland has, for some time, questioned the benefits of establishing and maintaining HOAs for residential suburbs/townships that they develop.

This concern is a consequence of the significant time and cost incurred in setting up and maintaining these associations with very little perceived added value.

The intention of this thesis was therefore to quantify this added value (if it existed), and in so doing, assist management in matching the right product in the right market with the right price. Furthermore, the quantification of this added value would enable Moreland to restructure its time and cost commitments to the various HOAs commensurate with the quantum of added value of each HOA.

A scientific approach to resolving Moreland's dilemma was adopted. It was decided that the objectives would be restated in the form of research hypotheses, the acceptance or rejection of which would assist in the resolution of the management dilemma.

The research hypothesis adopted were :-

$H1_0$  – The presence of a HOA has no effect on the decision to purchase vacant land.

$H1_A$  – The presence of a HOA will effect a decision to purchase vacant land

$H2_0$  – The presence of a HOA will not allow Moreland to command a price premium on the sale of vacant land.

$H2_A$  – The presence of a HOA will allow Moreland to command a premium on the sale of vacant land.

where the subscript “O” represents null hypotheses and subscript “A” represents the alternative hypotheses.

The resolution of the research objectives would not be complete without a theoretical framework from which to base assumptions and to establish a platform for the study.

The theoretical framework chosen is Porter’s Value Chain which enables the understanding of the added value concept. The Value Chain is a process by which the value creating activities a company performs is disaggregated into discrete yet inter-dependent activities.

Moreland’s value chain consists of a wide array of value creating activities. Of the various value creating activities, the value created by a HOA is singled out and further investigated.

Using the Management Research Question Hierarchy, the management dilemma of the unquantified value of a HOA is progressively broken up until the root problems is established.

A stratified disproportionate random sample was chosen to ensure greater statistical efficiency and to ensure that the sample statistics could give an indication of the population parameters. Five strata was chosen and each strata represented a project viz. Broadlands, Somerset Park, Gardens, MECCE and Zimbali.

A telephonic interview survey was chosen because of its advantages of time and cost when compared to that of personal interviews. In all, 93 respondents across five projects were surveyed. The research instrument was a standardized questionnaire consisting of a mixture of open (unstructured) questions and closed (structured) questions.

The telephonic interviews were implemented in line with ethical standards and no deception of any sort was used.

## **6.2 Conclusion**

Two types of data analyses were performed. For the lower data types (nominal and order data) a descriptive statistical analysis was undertaken. For the higher data types (interval and ratio data), analytic statistical analysis were undertaken.

The main trends emanating from the descriptive statistical analyses are :-

- a) The value of a HOA at the time of purchase of the vacant land increases as project complexity increases (i.e. from Broadlands to Somerset Park to Gardens to MECCE to Zimbali).
- b) The value of a HOA presently perceived by owners of vacant land increases, in the main, as project complexity increases.
- c) In the main, the value of the HOA that owners currently perceived exceeds the value perceived at time of purchase.
- d) The main drivers of value are security, architectural theme, landscaping, general environment, communications and rules and regulations
- e) For the less complex projects, i.e. Broadlands and Somerset Park, the main drivers of value both at the time of purchase and presently are architectural theme and rules and regulations.
- f) For the more complex projects, i.e. Gardens, MECCE and Zimbali, the main drivers of value both at the time of purchase and presently are security and architecture. The remaining drivers of value also play a more significant role in the more complex projects.

The main conclusions emanating from the analytical statistical analyses are :-

- a) The confidence interval for the mean for the full population lies between 3.20 and 3.60 indicating an overall positive effect of the HOA on the decision to purchase vacant land.
- b) The confidence intervals for the means for the population of each project (except Broadlands) exceed 3.0 also implying a positive effect of the HOA on the decision to purchase vacant land.
- c) The confidence interval for the mean for the population of Broadlands lies between 2.69 and 3.70 which straddles 3.0 ("No Effect" score), implying that the population mean could be that the presence of a HOA either negatively, positively and had no effect on the decision to purchase.
- d) The first null hypothesis ( $H1_0$  - *The presence of a HOA has no effect on the decision to purchase vacant land*) is not rejected for Broadlands i.e. the presence of a HOA had no effect on the decision to purchase vacant land.
- e) The first null hypothesis is rejected for the remaining projects and for the overall population as well. Since these samples confidence intervals exceed 3.0, it could state that the presence of HOA had a positive effect on the decision to purchase.
- f) The second null hypothesis ( $H2_0$  - *The presence of a HOA will not allow Moreland to command a price premium on the sale of vacant land*) is rejected for each project and for the overall project as well. This implies that Moreland can command a price premium on the sale of vacant land.
- g) The above statement has one limitation - For Broadlands, although the second hypothesis proves that a price premium can be charged, the first



hypothesis shows that the owners purchase decision was not affected by the presence of a HOA. It follows then that Moreland could not, in real terms, charge this premium as the prospective purchasers do not perceive value in the HOA.

- h) For the remaining projects, since Hypothesis 1 proved that the owners were positively affected by the presence of a HOA, Hypothesis 2 enables Moreland to charge a price premium.
- i) The premium percentages that could be charged for the following projects are as follows :

Somerset Park	-	4%	to	20%
Gardens	-	1%	to	17%
MECCE	-	16%	to	45%
Zimbali	-	13.5%	to	24.5%

- j) It must be noted that this premium is the price over and above the price of an equivalent piece of land not administered by a HOA.
- k) The Coleman Technique enabled the isolation of different variables to establish the effects on HOA value at purchase and presently.
- l) The analysis using this technique showed that the project effect (Location) was the main driver towards added value when the other variables (viz. architecture, landscaping, environmental, communication and rules and regulations) were compared to it.
- m) The analysis also showed that when security is analysed, the project effect subordinates and security becomes the prime driver of value.

It must be noted that all inferences made in items (a) - (m) above are made at the 95% level of confidence (i.e. a 5% error).

### 6.3 Recommendations

As the actual costs of running the relevant Associations cannot be stated in this thesis (due to its confidential nature), it can be said that these costs are significant. The amount of time spent on running the associations, are also significant.

For Broadlands, the prospective purchasers decision to purchase is not affected by the presence of a HOA and whilst they see value in it, they are not willing to pay for it. In other words, they would be willing to pay the exact same price that they have paid for a vacant site in an area that did not have a HOA. They do, however, feel that the HOA has value and that if the property is sold, a proportion of the “profit” on the sale of the vacant land is attributable to the presence of a HOA. This implies that Moreland have created value by setting up the HOA, but is unable to capture value as all value created is captured entirely by the end user.

Michael Porter (1985) asserts that created value that cannot be captured is useless to a company. The resources spent on creating value cannot be compensated by a premium price (captured value).

It is therefore the recommendation of the writer that the resources currently being spent on the Broadlands project be diminished over the short term to zero as Moreland cannot capture the value that it has created.

For the remaining projects, viz., Somerset Park, Gardens, MECCE and Zimbali, the fact that a price premium can be charged demonstrates that Moreland can capture some of the value that is created.

It is therefore the recommendation of the writer that Moreland adjusts its time and cost commitments to the relevant HOA in line with the percentages specified earlier.

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# **APPENDIX**

**UNIVERSITY OF NATAL : DURBAN  
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MASTERS OF BUSINESS ADMINISTRATION**

**Questionnaire for Survey of HOA added value to Residential Property**

*This Section is to be completed by the interviewer prior to telephone interview!*

Sex (M/F) : \_\_\_\_\_ Location : \_\_\_\_\_ Site Extent : \_\_\_\_\_ m<sup>2</sup>  
Year of Purchase : \_\_\_\_\_ Lot No : \_\_\_\_\_ Price Paid : R \_\_\_\_\_  
Name of Interviewee/Owner : \_\_\_\_\_

Good Day Mr/Mrs \_\_\_\_\_. My name is Greg Veerasamy and I am employed as a Project Manager by Moreland Developments (Pty) Ltd. I am currently studying towards a Masters degree in Business Administration and, for the purposes of my thesis, I am investigating the value derived from the presence of Home Owner / Management Associations. If you would allow me just 5 minutes of your time to answer a few questions, I would be able to complete a dissertation which would also enable Moreland and the Association give a better service to you, the resident and the greater community. The information supplied to me will be kept in the strictest confidence and will be used for statistical purposes only.

**Section A : Primary Questions**

1. Did you know about the concept of HOA's before you bought into your current area ?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

2. If "No" to Question 2 , when you did find out about it, how did it affect your decision to purchase ?

<input type="checkbox"/>	Highly Negatively
<input type="checkbox"/>	Negatively
<input type="checkbox"/>	No Effect
<input type="checkbox"/>	Positively
<input type="checkbox"/>	Highly Positively

3. If "Yes" to Question 2, how did the presence of HOA influence your decision to purchase ?

<input type="checkbox"/>	Highly Negatively
<input type="checkbox"/>	Negatively
<input type="checkbox"/>	No Effect
<input type="checkbox"/>	Positively
<input type="checkbox"/>	Highly Positively

4. What was the total cost of construction of your home? R \_\_\_\_\_

5. What is the current market value of your property (land and house)? R \_\_\_\_\_

6. In your opinion, how much of the purchase price of the land was attributable to the presence of a HOA?  
or,  
In the purchase price of the land, what percentage or how much less would you have paid in the  
absence of a HOA? R \_\_\_\_\_ or \_\_\_\_\_ %

7. In your opinion, how much do you think is it currently worth? R \_\_\_\_\_ or \_\_\_\_\_ %

8. What value does the HOA give you ?

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**Section B : Secondary Questions**

9. Please state your occupation ? \_\_\_\_\_

10.

What age group do you fit into ? (Please tick box)

☐

20-30

☐

30-40

☐

40-50

☐

50-60

☐

over 60

11.

What was the type of our previous dwelling ?

☐

House

☐

Townhouse

☐

Flat

12.

Did you own your previous dwelling unit ?

☐

Yes

☐

No

13.

How far do you work from home ?

☐

0-10km

☐

10-20km

☐

20-30km

☐

30-40km

☐

over 40km

14.

What is the approximate monthly household income ?

☐

R0 – R10 000

☐

R10 000 – R20 000

☐

R20 000 – R30 000

☐

R30 000 – R40 000

☐

Over R40 000 – Please state approx. value = R\_\_\_\_\_

15.

In your purchase decision, did it matter if the land was sold by the company, Moreland Developments ?

☐

Yes

☐

No

16.

If yes, which attributes of Moreland attracted you to purchase from them ?

17.

If you where to purchase in another suburb, would you look for a property that belongs to a HOA ?

☐

Yes

☐

No

18.

Why ?

Thank you for taking the time to complete this questionnaire. It is greatly appreciated. I confirm that the information supplied by you will be kept in the strictest confidence and will be used for statistical purposes only. Should you so desire, I can make the summary of the research findings available to you. Y / N  
If yes, please may I have your postal address :-



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GRADUATE SCHOOL OF BUSINESS

MASTERS OF BUSINESS ADMINISTRATION

SAMPLES 1 TO 5 - CONSOLIDATED

Ref No:		Sample Size = 93																
Preliminary Information (i.e. info obtained before telephone interview)																		
Name																		
Gender	(M/F)	M=	88	F=	5	%M =	95%	%F =	5%									
Location	(B/S/G/M/Z)																	
Lot No.																		
Price Paid	(R)	Total =	23075	Ave =	248													
Site Extent	(m <sup>2</sup> )	Total =	99899	Ave =	1074													
Date of Transfer	(mmm-yy)																	
Quest Obtained Information (i.e. info obtained during telephone interview)																		
1	Concept of HOA	(Y/N)	Yes =	46	No=	47	% Yes =	49%	% No =	51%								
2/3	Affect Purchase Decision	(1-5)	1=	1	2=	7	3=	48	4=	25	5=	12						
4	Cost of Construction	(R)	Total =	71540	Ave =	769						Median =	3	Mode =	3			
5	Market Value	(R)	Total =	152453	Ave =	1639						sk =	1.09	ku =	-1.76			
	Enhanced Value *		Total =	57838	Ave =	622												
6	HOA % Purchase Price		Total =	1777	Ave =	19	Std Dev =	26.7	Variance =	714.9	Median =	8	Mode =	0	sk =	1.88	ku =	1.15
7	HOA % Current		Total =	2989	Ave =	32	Std Dev =	67.6	Variance =	4567.5	Median =	26	Mode =	0	sk =	1.61	ku =	-0.01
8	Value of HOA		Total =	48	%age =	52%												
	security	(1/0)	Total =	69	%age =	74%												
	architectural theme	(1/0)	Total =	25	%age =	27%												
	landscaping	(1/0)	Total =	13	%age =	14%												
	general environment	(1/0)	Total =	11	%age =	12%												
	communication	(1/0)	Total =	42	%age =	45%												
	rules and regulations	(1/0)	Total =		%age =													
9	Occupation																	
10	Age	(1-5)	1=	5	2=	31	3=	32	4=	18	5=	7	Ave =	2.9				
11	Previous Dwelling	(H/T/F)	1=	70	2=	20	3=	3	%1=	75%	%2=	22%	%3=	3%				
12	Ownership Prev Dwelling	(Y/N)	Yes =	74	No=	19	% Yes =	80%	% No =	20%								
13	Distance to Work	(1-5)	1=	31	2=	26	3=	14	4=	9	5=	13	Ave =	2.4				
14	Monthly Income (H/Hold)	(1-5)	1=	6	2=	26	3=	25	4=	10	5=	23	Ave =	3.1				
15	Sold by Moreland	(Y/N)	Yes =	35	No=	58	% Yes =	38%	% No =	62%								
16	Attributes of Moreland																	
	Responsible Developer	(1/0)	Total =	11	%age =	12%												
	Big Brand Name	(1/0)	Total =	24	%age =	26%												
	Backed by THG	(1/0)	Total =	4	%age =	4%												
	Previous Developments	(1/0)	Total =	9	%age =	10%												
	Good Investments	(1/0)	Total =	11	%age =	12%												
	Reputable	(1/0)	Total =	22	%age =	24%												
	After Sales Service	(1/0)	Total =	3	%age =	3%												
17	Purchase Next	(Y/N)	Yes =	70	No=	23	% Yes =	75%	% No =	25%								
18	Why purchase Next																	
	security	(1/0)	Total =	48	%age =	52%												
	architectural theme	(1/0)	Total =	45	%age =	48%												
	landscaping	(1/0)	Total =	20	%age =	22%												
	general environment	(1/0)	Total =	6	%age =	6%												
	communication	(1/0)	Total =	5	%age =	5%												
	rules and regulations	(1/0)	Total =	42	%age =	45%												
19	Post Summary	(Y/N)	Yes =	79	No=	14	% Yes =	85%	% No =	15%								
20	Postal Address Line 1	P.O.Box																
	Postal Address Line 2																	
	Postal Address Line 3																	
	Postal Code																	

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MASTERS OF BUSINESS ADMINISTRATION

SAMPLE 5 - ZIMBALI

Ref No:		Sample Size = 18																				
Preliminary Information (i.e. info obtained before telephone interview)																						
Name																						
Gender		(M/F)	M=	16	F=	2	%M =	89%	%F =	11%												
Location		(B/S/G/M/Z)																				
Lot No.																						
Price Paid		(R)	Total =	11200	Ave =	622																
Site Extent		(m <sup>2</sup> )	Total =	23939	Ave =	1330																
Date of Transfer		(mmm-yy)																				
Quest Obtained Information (i.e. info obtained during telephone interview)																						
1	Concept of HOA	(Y/N)	Yes =	13	No=	5	% Yes =	72%	% No =	28%												
2/3	Affect Purchase Decision	(1-5)	1=	0	2=	1	3=	12	4=	3	5=	2	Ave =	3.4	Std Dev =	0.8	Variance =	0.6	Median =	3	Mode =	3
4	Cost of Construction	(R)	Total =	30175	Ave =	1678																
5	Market Value	(R)	Total =	77625	Ave =	4313																
	Enhanced Value *		Total =	36250	Ave =	2014																
6	HOA % Purchase Price		Total =	728	Ave =	40	Std Dev =	19.9	Variance =	398.0	Median =	40	Mode =	50	sk =	1.22	ku =	-1.4				
7	HOA % Current		Total =	705	Ave =	39	Std Dev =	22.7	Variance =	515.4	Median =	30	Mode =	30	sk =	1.37	ku =	-0.9				
8	Value of HOA																					
	security	(1/0)	Total =	18	%age =	100%																
	architectural theme	(1/0)	Total =	14	%age =	78%																
	landscaping	(1/0)	Total =	12	%age =	67%																
	general environment	(1/0)	Total =	8	%age =	44%																
	communication	(1/0)	Total =	2	%age =	11%																
	rules and regulations	(1/0)	Total =	4	%age =	22%																
9	Occupation																					
10	Age	(1-5)	1=	0	2=	3	3=	6	4=	6	5=	3	Ave =	3.5								
11	Previous Dwelling	(H/T/F)	1=	13	2=	5	3=	0	%1=	72%	%2=	28%	%3=	0%								
12	Ownership Prev Dwelling	(Y/N)	Yes =	16	No=	2	% Yes =	89%	% No =	11%												
13	Distance to Work	(1-5)	1=	7	2=	0	3=	2	4=	1	5=	8	Ave =	3.2								
14	Monthly Income (H/Hold)	(1-5)	1=	0	2=	3	3=	3	4=	1	5=	11	Ave =	4.1								
15	Sold by Moreland	(Y/N)	Yes =	10	No=	8	% Yes =	56%	% No =	44%												
16	Attributes of Moreland																					
	Responsible Developer	(1/0)	Total =	3	%age =	17%																
	Big Brand Name	(1/0)	Total =	7	%age =	39%																
	Backed by THG	(1/0)	Total =	1	%age =	6%																
	Previous Developments	(1/0)	Total =	2	%age =	11%																
	Good Investments	(1/0)	Total =	3	%age =	17%																
	Reputable	(1/0)	Total =	8	%age =	44%																
	After Sales Service	(1/0)	Total =	1	%age =	6%																
17	Purchase Next	(Y/N)	Yes =	17	No=	1	% Yes =	94%	% No =	6%												
18	Why purchase Next																					
	security	(1/0)	Total =	17	%age =	94%																
	architectural theme	(1/0)	Total =	7	%age =	39%																
	landscaping	(1/0)	Total =	7	%age =	39%																
	general environment	(1/0)	Total =	4	%age =	22%																
	communication	(1/0)	Total =	1	%age =	6%																
	rules and regulations	(1/0)	Total =	7	%age =	39%																
19	Post Summary	(Y/N)	Yes =	17	No=	1	% Yes =	94%	% No =	6%												
20	Postal Address Line 1	P.O.Box																				
	Postal Address Line 2																					
	Postal Address Line 3																					
	Postal Code																					

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MASTERS OF BUSINESS ADMINISTRATION

SAMPLE 4 - MECCE2

Ref No:	Sample Size = 15																					
Preliminary Information (i.e. info obtained before telephone interview)																						
Name																						
Gender	(M/F)	M=	13	F=	2	%M =	87%	%F =	11%													
Location	(B/S/G/M/Z)																					
Lot No.																						
Price Paid	(R)	Total =	3508	Ave =	234																	
Site Extent	(m <sup>2</sup> )	Total =	19921	Ave =	1328																	
Date of Transfer	(mmm-yy)																					
Quest	Obtained Information (i.e. info obtained during telephone interview)																					
1	Concept of HOA	(Y/N)	Yes =	4	No=	11	% Yes =	27%	% No =	61%												
2/3	Affect Purchase Decision	(1-5)	1=	0	2=	0	3=	8	4=	3	5=	4	Ave =	3.7	Std Dev =	0.9	Variance =	0.8	Median =	3	Mode =	3
4	Cost of Construction	(R)	Total =	13370	Ave =	891																
5	Market Value	(R)	Total =	27300	Ave =	1820																
	Enhanced Value *		Total =	10422	Ave =	695																
6	HOA % Purchase Price		Total =	458	Ave =	31	Std Dev =	26.9	Variance =	723.5	Median =	33	Mode =	0	sk =	1.65	ku =	0.2				
7	HOA % Current		Total =	837	Ave =	56	Std Dev =	31.8	Variance =	1011.0	Median =	50	Mode =	50	sk =	1.33	ku =	-1.1				
8	Value of HOA																					
	security	(1/0)	Total =	15	%age =	100%																
	architectural theme	(1/0)	Total =	14	%age =	93%																
	landscaping	(1/0)	Total =	10	%age =	67%																
	general environment	(1/0)	Total =	4	%age =	27%																
	communication	(1/0)	Total =	4	%age =	27%																
	rules and regulations	(1/0)	Total =	9	%age =	60%																
9	Occupation																					
10	Age	(1-5)	1=	0	2=	2	3=	5	4=	5	5=	3	Ave =	3.6								
11	Previous Dwelling	(H/T/F)	1=	13	2=	2	3=	0	%1=	87%	%2=	13%	%3=	0%								
12	Ownership Prev Dwelling	(Y/N)	Yes =	14	No=	1	% Yes =	93%	% No =	7%												
13	Distance to Work	(1-5)	1=	11	2=	0	3=	1	4=	2	5=	1	Ave =	1.8								
14	Monthly income (H/Hold)	(1-5)	1=	0	2=	2	3=	1	4=	5	5=	6	Ave =	4.1								
15	Sold by Moreland	(Y/N)	Yes =	3	No=	12	% Yes =	20%	% No =	80%												
16	Attributes of Moreland																					
	Responsible Developer	(1/0)	Total =	2	%age =	13%																
	Big Brand Name	(1/0)	Total =	1	%age =	7%																
	Backed by THG	(1/0)	Total =	0	%age =	0%																
	Previous Developments	(1/0)	Total =	1	%age =	7%																
	Good Investments	(1/0)	Total =	1	%age =	7%																
	Reputable	(1/0)	Total =	1	%age =	7%																
	After Sales Service	(1/0)	Total =	0	%age =	0%																
17	Purchase Next	(Y/N)	Yes =	15	No=	0	% Yes =	100	% No =	0												
18	Why purchase Next																					
	security	(1/0)	Total =	15	%age =	100%																
	architectural theme	(1/0)	Total =	11	%age =	73%																
	landscaping	(1/0)	Total =	9	%age =	60%																
	general environment	(1/0)	Total =	1	%age =	7%																
	communication	(1/0)	Total =	1	%age =	7%																
	rules and regulations	(1/0)	Total =	5	%age =	33%																
19	Post Summary	(Y/N)	Yes =	12	No=	3	% Yes =	80%	% No =	20%												
20	Postal Address Line 1	P.O.Box																				
	Postal Address Line 2																					
	Postal Address Line 3																					
	Postal Code																					

UNIVERSITY OF NATAL DURBAN  
GRADUATE SCHOOL OF BUSINESS

MASTERS OF BUSINESS ADMINISTRATION

SAMPLE 3 - GARDENS

Ref No:		Sample Size = 17												
Preliminary Information (i.e. info obtained before telephone interview)														
Name														
Gender	(M/F)	M=	16	F=	1	%M =	94%	%F=	6%					
Location	(B/S/G/M/Z)													
Lot No.														
Price Paid	(R)	Total =	3730	Ave =	219									
Site Extent	(m <sup>2</sup> )	Total =	20270	Ave =	1192									
Date of Transfer	(mmm-yy)													
Quest: Obtained Information (i.e. info obtained during telephone interview)														
1	Concept of HOA	(Y/N)	Yes =	14	No=	3	% Yes =	82%	% No =	18%				
2/3	Affect Purchase Decision	(1-5)	1=	0	2=	1	3=	7	4=	8	5=	1		
4	Cost of Construction	(R)	Total =	15575	Ave =	916						Ave =	3.5	
5	Market Value	(R)	Total =	25750	Ave =	1515						Std Dev =	0.7	
	Enhanced Value *		Total =	6445	Ave =	379						Variance =	0.5	
6	HOA % Purchase Price		Total =	148	Ave =	9	Std Dev =	16.2	Variance =	263.3	Median =	0		
7	HOA % Current		Total =	500	Ave =	29	Std Dev =	24.5	Variance =	599.6	Median =	25		
8	Value of HOA												Mode =	0
	security	(1/0)	Total =	15	%age =	88%						sk =	2.25	
	architectural theme	(1/0)	Total =	13	%age =	76%						ku =	2.3	
	landscaping	(1/0)	Total =	3	%age =	18%						sk =	1.68	
	general environment	(1/0)	Total =	1	%age =	6%						ku =	0.2	
	communication	(1/0)	Total =	2	%age =	12%								
	rules and regulations	(1/0)	Total =	8	%age =	47%								
9	Occupation													
10	Age	(1-5)	1=	2	2=	5	3=	7	4=	3	5=	0		
11	Previous Dwelling	(H/T/F)	1=	9	2=	7	3=	1	%1=	53%	%2=	41%		
12	Ownership Prev Dwelling	(Y/N)	Yes =	13	No=	4	% Yes =	76%	% No =	24%	%3=	6%		
13	Distance to Work	(1-5)	1=	3	2=	10	3=	3	4=	0	5=	1		
14	Monthly Income (H/Hold)	(1-5)	1=	1	2=	1	3=	9	4=	1	5=	4		
15	Sold by Moreland	(Y/N)	Yes =	5	No=	12	% Yes =	29%	% No =	71%	Ave =	2.2		
16	Attributes of Moreland													
	Responsible Developer	(1/0)	Total =	2	%age =	12%						Ave =	3.4	
	Big Brand Name	(1/0)	Total =	3	%age =	18%								
	Backed by THG	(1/0)	Total =	0	%age =	0%								
	Previous Developments	(1/0)	Total =	0	%age =	0%								
	Good Investments	(1/0)	Total =	2	%age =	12%								
	Reputable	(1/0)	Total =	5	%age =	29%								
	After Sales Service	(1/0)	Total =	0	%age =	0%								
17	Purchase Next	(Y/N)	Yes =	14	No=	3	% Yes =	82%	% No =	18%				
18	Why purchase Next													
	security	(1/0)	Total =	14	%age =	82%								
	architectural theme	(1/0)	Total =	9	%age =	53%								
	landscaping	(1/0)	Total =	3	%age =	18%								
	general environment	(1/0)	Total =	1	%age =	6%								
	communication	(1/0)	Total =	1	%age =	6%								
	rules and regulations	(1/0)	Total =	9	%age =	53%								
19	Post Summary	(Y/N)	Yes =	15	No=	2	% Yes =	86%	% No =	12%				
20	Postal Address Line 1	P.O Box												
	Postal Address Line 2													
	Postal Address Line 3													
	Postal Code													

UNIVERSITY OF NATAL DURBAN  
GRADUATE SCHOOL OF BUSINESS

MASTERS OF BUSINESS ADMINISTRATION

SAMPLE 2 - SOMERSET PARK

Ref No:		Sample Size = 23	
Preliminary information (i.e. info obtained before telephone interview)			
Name			
Gender	(M/F)	M = 21	F = 2 %M = 91% %F = 9%
Location	(B/S/G/M/Z)		
Lot No.			
Price Paid	(R)	Total = 2829	Ave = 123
Site Extent	(m <sup>2</sup> )	Total = 18069	Ave = 786
Date of Transfer	(mmm-yy)		
Quest Obtained information (i.e. info obtained during telephone interview)			
1	Concept of HOA (Y/N)	Yes = 11	No = 12 % Yes = 48% % No = 52%
2/3	Affect Purchase Decision (1-5)	1 = 0	2 = 1 3 = 12 4 = 8 5 = 2 Ave = 3.5 Std Dev = 0.7 Variance = 0.5 Median = 3 Mode = 3
4	Cost of Construction (R)	Total = 8450	Ave = 367
5	Market Value (R)	Total = 14710	Ave = 640
	Enhanced Value *	Total = 3431	Ave = 149
6	HOA % Purchase Price	Total = 285	Ave = 12 Std Dev = 19.7 Variance = 388.3 Median = 0 Mode = 0 sk = 2.35 ku = 3.5
7	HOA % Current	Total = 608	Ave = 26 Std Dev = 20.4 Variance = 414.6 Median = 25 Mode = 10 sk = 1.46 ku = -0.7
8	Value of HOA		
	security (1/0)	Total = 0	%age = 0%
	architectural theme (1/0)	Total = 20	%age = 87%
	landscaping (1/0)	Total = 0	%age = 0%
	general environment (1/0)	Total = 0	%age = 0%
	communication (1/0)	Total = 2	%age = 9%
	rules and regulations (1/0)	Total = 12	%age = 52%
9	Occupation		
10	Age (1-5)	1 = 3	2 = 10 3 = 7 4 = 2 5 = 1 Ave = 2.5
11	Previous Dwelling (H/T/F)	1 = 20	2 = 3 3 = 0 %1 = 87% %2 = 13% %3 = 0%
12	Ownership Prev Dwelling (Y/N)	Yes = 16	No = 7 % Yes = 70% % No = 30%
13	Distance to Work (1-5)	1 = 5	2 = 11 3 = 3 4 = 2 5 = 2 Ave = 2.3
14	Monthly Income (H/Hold) (1-5)	1 = 2	2 = 10 3 = 7 4 = 2 5 = 2 Ave = 2.7
15	Sold by Moreland (Y/N)	Yes = 6	No = 17 % Yes = 26% % No = 74%
16	Attributes of Moreland		
	Responsible Developer (1/0)	Total = 2	%age = 9%
	Big Brand Name (1/0)	Total = 6	%age = 26%
	Backed by THG (1/0)	Total = 1	%age = 4%
	Previous Developments (1/0)	Total = 3	%age = 13%
	Good Investments (1/0)	Total = 3	%age = 13%
	Reputable (1/0)	Total = 4	%age = 17%
	After Sales Service (1/0)	Total = 1	%age = 4%
17	Purchase Next (Y/N)	Yes = 16	No = 7 % Yes = 70% % No = 30%
18	Why purchase Next		
	security (1/0)	Total = 2	%age = 9%
	architectural theme (1/0)	Total = 15	%age = 65%
	landscaping (1/0)	Total = 1	%age = 4%
	general environment (1/0)	Total = 0	%age = 0%
	communication (1/0)	Total = 1	%age = 4%
	rules and regulations (1/0)	Total = 13	%age = 57%
19	Post Summary (Y/N)	Yes = 18	No = 5 % Yes = 78% % No = 22%
20	Postal Address Line 1	P.O.Box	
	Postal Address Line 2		
	Postal Address Line 3		
	Postal Code		

UNIVERSITY OF NATAL DURBAN  
GRADUATE SCHOOL OF BUSINESS

MASTERS OF BUSINESS ADMINISTRATION

SAMPLE 1 - BROADLANDS

Ref No:		Sample Size = 20	
Preliminary Information (i.e. info obtained before telephone interview)			
Name			
Gender	(M/F)	M= 20	F= 0 %M = 100% %M = 0%
Location	(B/S/G/M/Z)		
Lot No.			
Price Paid	(R)	Total = 1808	Ave = 90
Site Extent	(m <sup>2</sup> )	Total = 19074	Ave = 954
Date of Transfer	(mmm-yy)		
Quest Obtained Information (i.e. info obtained during telephone interview)			
1	Concept of HOA (Y/N)	Yes = 4	No = 16 % Yes = 20% % No = 80%
2/3	Affect Purchase Decision (1-5)	1 = 1	2 = 4 3 = 9 4 = 3 5 = 3 Ave = 3.2 Std Dev = 1.1 Variance = 1.2 Median = 3 Mode = 3
4	Cost of Construction (R)	Total = 3970	Ave = 199
5	Market Value (R)	Total = 7068	Ave = 353
	Enhanced Value *	Total = 1290	Ave = 65
6	HOA % Purchase Price	Total = 158	Ave = 8 Std Dev = 10.9 Variance = 117.8 Median = 0 Mode = 0 sk = 1.91 ku = 0.9
7	HOA % Current	Total = 339	Ave = 17 Std Dev = 19.8 Variance = 391.3 Median = 5 Mode = 0 sk = 1.65 ku = -0.1
8	Value of HOA		
	security (1/0)	Total = 0	%age = 0%
	architectural theme (1/0)	Total = 8	%age = 40%
	landscaping (1/0)	Total = 0	%age = 0%
	general environment (1/0)	Total = 0	%age = 0%
	communication (1/0)	Total = 1	%age = 5%
	rules and regulations (1/0)	Total = 9	%age = 45%
9	Occupation		
10	Age (1-5)	1 = 0	2 = 11 3 = 7 4 = 2 5 = 0 Ave = 2.6
11	Previous Dwelling (H/T/F)	1 = 15	2 = 3 3 = 2 %1 = 75% %2 = 15% %3 = 10%
12	Ownership Prev Dwelling (Y/N)	Yes = 15	No = 5 % Yes = 75% % No = 25%
13	Distance to Work (1-5)	1 = 5	2 = 5 3 = 5 4 = 4 5 = 1 Ave = 2.6
14	Monthly Income (H/Hold) (1-5)	1 = 3	2 = 10 3 = 5 4 = 1 5 = 0 Ave = 2.2
15	Sold by Moreland (Y/N)	Yes = 11	No = 9 % Yes = 55% % No = 45%
16	Attributes of Moreland		
	Responsible Developer (1/0)	Total = 2	%age = 10%
	Big Brand Name (1/0)	Total = 7	%age = 35%
	Backed by THG (1/0)	Total = 2	%age = 10%
	Previous Developments (1/0)	Total = 3	%age = 15%
	Good Investments (1/0)	Total = 2	%age = 10%
	Reputable (1/0)	Total = 4	%age = 20%
	After Sales Service (1/0)	Total = 1	%age = 5%
17	Purchase Next (Y/N)	Yes = 8	No = 12 % Yes = 40% % No = 60%
18	Why purchase Next		
	security (1/0)	Total = 0	%age = 0%
	architectural theme (1/0)	Total = 3	%age = 15%
	landscaping (1/0)	Total = 0	%age = 0%
	general environment (1/0)	Total = 0	%age = 0%
	communication (1/0)	Total = 1	%age = 5%
	rules and regulations (1/0)	Total = 8	%age = 40%
19	Post Summary (Y/N)	Yes = 17	No = 3 % Yes = 85% % No = 15%
20	Postal Address Line 1 P.O.Box		
	Postal Address Line 2		
	Postal Address Line 3		
	Postal Code		