The modern consumer seeks to maximise the value they receive from all their marketing exchanges. A retail centre can provide value by increasing the benefits it provides and/or by minimising the costs consumers face when visiting it. Current academic interest is typically focused on just the one side of this equation - the hedonic benefits of shopping. In contrast, the other side of the value equation - convenience - has been largely ignored, presumably because the few studies that have included it found it to be of relatively less importance. Given that we live in an era of convenience, such findings should be treated with a degree of scepticism. This study empirically develops and tests an alternative definition of convenience to that used by previous studies. Armed with this new definition, the study examines the influence of convenience over consumers choice between shopping malls and shopping strips. Convenience is shown to have a significant influence in determing where we choose to shop.

Vaughan Reimers
Dr Vaughan Reimers is a Senior Lecturer and Head of the Marketing Section at Monash University, Gippsland Campus. This book was inspired by a search for answers as to why within just a few years of the introduction of a shopping mall in his home town, a once vibrant downtown centre could be so dramatically decimated.

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TABLE OF CONTENTS

TABLE OF CONTENTS I

LIST OF TABLES VII

LIST OF FIGURES VIII

ABSTRACT IX

DECLARATION X

PUBLICATIONS XI

ACKNOWLEDGEMENTS XII

CHAPTER 1 INTRODUCTION 1
1.1 BACKGROUND TO THE RESEARCH 1
1.1.1 The fall of the shopping strip 1
1.1.2 Rejuvenation strategies for the shopping strip 2
1.1.3 The shopping strip is inconvenient 4
1.1.4 The impact of the shopping centre 5
1.1.5 The shopping centre succeeds due to planning and population growth 6
1.1.6 The shopping centre offers shopping convenience 8
1.1.7 The shopping centre falters due to population factors 9
1.1.8 The regional shopping centre is inconvenient 10
1.2 RESEARCH PROBLEM AND PROPOSITIONS 12
1.3 JUSTIFICATION FOR THE RESEARCH 14
1.4 RESEARCH METHODOLOGY 15
1.4.1 Conceptual Development 16
1.4.2 Operationalisation of the Constructs 16
1.4.3 Unit of Analysis 16
1.4.4 Instrument 16
1.4.5 Data Collection 17
1.4.6 Data Entry and Analysis 17
1.5 SCOPE OF THE THESIS 17
1.6 OUTLINE OF THE THESIS 18
1.7 SUMMARY 19

CHAPTER 2 THE IMPORTANCE OF RETAIL CENTRE CONVENIENCE 20
2.1 INTRODUCTION 20
2.2 WHY IS CONVENIENCE SO IMPORTANT? 20
2.3 CONVENIENCE AND THE PATRONAGE PROCESS 21
2.3.1 Environmental Influences 22
2.3.1.1 Time: a scarce commodity 22
2.3.1.2 Working women seek convenience 23
2.3.1.3 An increasing number of male shoppers 23
2.3.1.4 Shopping context 24
2.3.2 Individual differences 24
2.3.3 Consumer needs 24
2.3.3.1 Hedonic needs 24
2.3.3.2 Utilitarian needs 27
2.3.4 The patronage decision process 27
2.3.4.1 Convenience and the Internet 27
2.4 SUMMARY 28

CHAPTER 3 THE MEANING OF RETAIL CENTRE CONVENIENCE 29
3.1 INTRODUCTION 29
3.2 THE MEANING OF CONVENIENCE 29
3.3 THE COSTS OF RETAIL CENTRE PATRONAGE 30
3.4 A REVIEW OF EXISTING DEFINITIONS 32
3.4.1 Trading hours 34
3.4.2 Proximity 35
3.4.3 Access 37
3.4.4 Low prices 37
3.4.5 Parking 38
3.4.6 Ease-of-way finding 38
3.4.7 Number of other services 38
3.4.8 Public transport 39
3.5 OTHER POTENTIAL CONVENIENCE ATTRIBUTES 39
3.5.1 One-stop shopping 39
3.5.2 Enclosure 40
3.5.3 The provision of pedestrian areas 42
3.5.4 Shopping services and amenities 45
3.6 INTRA-CENTRE SPATIAL CONVENIENCE 45
3.6.1 Size 46
3.6.2 Design 47
3.6.3 Compatibility 48
3.6.4 Concentration 48
3.7 CONCEPTUAL FRAMEWORK 49
3.8 SUMMARY 51

CHAPTER 4 RESEARCH METHODOLOGY FOR THE DEMAND-SIDE ANALYSIS 53
4.1 INTRODUCTION 53
4.2 DESIGN 53
4.2.1 Research method 53
4.2.2 Questionnaire type 55
4.2.3 Question type 55
4.2.4 Scale type 56
4.2.5 Numbered scales 57
4.2.6 Labelled scale points 57
4.2.7 The number of scale points 58
4.2.8 Reverse scoring 58
4.2.9 Question sequence and grouping 58
4.2.10 Questionnaire length 59
4.2.11 Pre-testing the questionnaire 59
4.3 SUBJECTS 61
4.3.1 Population 61
4.3.2 Sample type 61
4.3.3 Sampling frame 61
4.3.4 Sample size 62
4.3.5 Non-response 62
4.3.5.1 Cover letter 63
4.3.5.2 Financial incentives 63
4.3.5.3 Follow-up 64
4.4 OPERATIONALISING THE MEANING OF RETAIL CENTRE CONVENIENCE 64
4.4.1 Clarifying the constructs 64
4.4.1.1 The independent variables 65
4.4.1.2 The dependent variable 65
4.4.1.3 The mediating construct 65
4.4.2 Developing indicators 66
4.4.2.1 Constitutive and operational definitions of retail centre convenience 67
4.4.3 Reliability 68
4.4.3.1 Coefficient alpha 68
4.4.3.2 Factor analysis 69
4.4.4 Validity 71
4.4.4.1 Content validity 72
4.4.4.2 Discriminant and convergent validity 72
4.4.4.3 Criterion validity 72
4.5 OPERATIONALISING THE IMPORTANCE OF CONVENIENCE 73
4.5.1 Clarifying the concepts 73
4.5.2 The independent variables 73
4.5.3 The mediating construct: Attitudes 73
4.5.4 The dependent variable: Retail Centre Patronage 77
4.5.5 Evaluating indicators 78
4.6 ETHICS AND INFORMATION CONFIDENTIALITY 80
4.7 DATA CODING AND EDITING 81
4.8 DATA ANALYSIS PROCEDURES 82
4.9 RESPONDENT PROFILES 82
4.9.1 Age 82
4.9.2 Gender 82
4.9.3 Postcode 83
4.9.4 Education 83
4.9.5 Income 84
4.10 SUMMARY 84

CHAPTER 5 RESEARCH METHODOLOGY FOR THE SUPPLY-SIDE ANALYSIS 85
5.1 INTRODUCTION 85
5.2 SAMPLING FRAME 85
5.3 CLASSIFICATION OF BUSINESSES 85
5.4 ONE-STOP SHOPPING 86
5.5 TRADING HOURS 87
5.6 ENCLOSURE 87
5.7 PROXIMITY 87
5.8 PEDESTRIAN AREAS 88
5.9 STORE VISIBILITY 88
5.10 SHOPPING SERVICES 88
5.11 PUBLIC TRANSPORT 88
5.12 PARKING AVAILABILITY 88
5.13 PARKING PROXIMITY 89
5.14 PARKING TYPE 89
5.15 SPEED LIMITS, TRAFFIC CONTROLS AND THE NUMBER OF LANES 89
5.16 DESIGN AND SIZE 89
5.17 COMPATIBILITY 89
5.18 CONCENTRATION 90
5.18.1 Department store 92
5.18.2 Supermarket 92
5.18.3 Food stores 92
5.18.4 Food service 93
5.18.5 Homeware and hardware/industrial/automotive functions 93
5.18.6 Fashion 93
5.18.7 Leisure products 93
5.18.8 Professional, consumer and community services 94
5.19 SUMMARY 95

CHAPTER 6 A DEMAND-SIDE ANALYSIS OF THE MEANING AND IMPORTANCE OF RETAIL CENTRE CONVENIENCE 96
6.1 INTRODUCTION 96

SECTION 6A: PRELIMINARY ANALYSIS 97
6.2 SHOPPING PREFERENCE, FREQUENCY AND CONVENIENCE 97
6.2.1 Retail centre preference 97
6.2.2 Most frequented retail centre 97
6.2.3 Most convenient retail centre 98

SECTION 6B: THE MEANING OF RETAIL CENTRE CONVENIENCE 98
6.3 THE DIMENSIONS OF RETAIL CENTRE CONVENIENCE 98
6.3.1 Data Analysis Procedures 98
6.3.2 Checks for violations of assumptions for T-Tests 99

6.3.2.1 Scale of measurement 99
6.3.2.2 Random sampling 99
6.3.2.3 Observations are normally distributed 99
6.3.3 Checks for violations of assumptions for One-Way Between Groups ANOVA 100
6.3.3.1 Random Sampling 100
6.3.3.2 Homogeneity of variance 100
6.3.3.3 Observations are normally distributed 100
6.3.4 Analysis of the Dimensions of Retail Centre Convenience 100
6.3.5 Discussion 103
6.4 THE ATTRIBUTES OF RETAIL CENTRE CONVENIENCE 104
6.4.1 Data Analysis Procedures 104
6.4.2 Checks for violations of assumptions 104
6.4.3 Analysis of the Attributes of Retail Centre Convenience 104
6.4.4 Discussion 112
6.5 FACTORS THAT INFLUENCE PERCEPTIONS OF THE MOST CONVENIENT RETAIL FORM 113
6.5.1 Data Analysis Procedures 113
6.5.2 Checks for violations of assumptions 113
6.5.2.1 The ratio of cases to predictor variables 113
6.5.2.2 Multicollinearity 113
6.5.3 The relationship between convenience attributes and retail centre preference 114
6.6 THE RELATIONSHIP BETWEEN THE DIMENSIONS AND ATTRIBUTES OF RETAIL CENTRE CONVENIENCE 115
6.6.1 Data Analysis Procedures 115
6.6.2 Checks for violations of assumptions 115
6.5.2.1 Related pairs and scale of measurement 115
6.5.2.2 Normality 115
6.5.2.3 Linearity and Homoscedasticity 115
6.6.3 Analysis and discussion of the relationship between the dimensions and attributes 115

SECTION 6C: THE IMPORTANCE OF RETAIL CENTRE CONVENIENCE 118
6.7 THE IMPORTANCE OF CONVENIENCE AS A STRATEGY 118
6.7.1 Data Analysis Procedures 118
6.7.2 Checks for violations of assumptions 118
6.7.3 Analysis of the importance of the five strategies 118
6.7.4 Discussion 120
6.8 THE IMPORTANCE OF THE INDIVIDUAL ATTRIBUTES OF RETAIL CENTRE CONVENIENCE 121
6.8.1 Data Analysis Procedures 121
6.8.2 Checks for violations of assumptions 121
6.8.3 Analysis of the importance of the attributes of convenience 121
6.8.4 Discussion 129
6.9 THE RELATIONSHIP BETWEEN THE CONVENIENCE AND IMPORTANCE OF THE ATTRIBUTES 130
6.9.1 Data Analysis Procedures 130
6.9.2 Checks for violations of assumptions 130
6.9.3 Analysis and discussion of the relationship between the convenience and importance of retail centre attributes 130
6.10 THE IMPORTANCE OF ATTRIBUTES WHEN CONFLICT EXISTS 130
6.10.1 Data Analysis Procedures 130
6.10.2 Checks for violations of assumptions for Paired-Samples T-Tests 131
6.10.3 Checks for violations of assumptions for Within-Subjects One-Way ANOVA 131
6.10.3.1 Sphericity 131
6.10.4 Analysis and discussion of mean scores for conflicting attributes 131
6.11 THE RELATIVE IMPORTANCE OF ATTRIBUTES BY RETAIL CENTRE PREFERENCE 132
6.11.1 Data Analysis Procedures 132
6.11.2 Checks for violations of assumptions 132
6.11.2.1 Variables are multivariately normally distributed 132
6.11.2.2 Population variances and covariances are the same 132
6.11.2.3 Ratio of cases to predictor variables 132
6.11.3 A discriminant analysis of mean scores by retail centre preference 133
6.12 FACTORS THAT DETERMINE RETAIL CENTRE PREFERENCE 134
6.12.1 Data Analysis Procedures 134
6.12.2 Checks for violations of assumptions 134
6.12.2.1 The ratio of cases to predictor variables 134
6.12.2.2 Multicollinearity 135
6.12.3 The relationship between convenience attributes and retail centre preference 135
6.13 SUMMARY 136

CHAPTER 7 A SUPPLY-SIDE ANALYSIS OF THE IMPORTANCE OF RETAIL CENTRE CONVENIENCE 141
7.1 INTRODUCTION 141
7.2 PARKING ATTRIBUTES 142
7.3 PUBLIC TRANSPORT 143
7.4 ONE-STOP SHOPPING 144
7.5 PROXIMITY 146
7.6 COMPATIBILITY 146
7.7 ENCLOSURE 147
7.8 TRADING HOURS 149
7.9 DESIGN 150
7.10 CONCENTRATION 152
7.11 NUMBER OF TRAFFIC LANES 158
7.12 TRAFFIC CONTROLS 158
7.13 SUMMARY 159

CHAPTER 8 CONCLUSIONS, IMPLICATIONS AND FUTURE RESEARCH 161
8.1 INTRODUCTION 161
8.2 SUMMARY OF RESEARCH QUESTIONS AND PROPOSITIONS 161
8.2.1 Research Question 1: How do consumers define retail centre convenience? 161
8.2.2 Proposition 1: Retail centre convenience comprises dimensions that represent the non-financial costs of patronising a retail centre 161
8.2.3 Proposition 2: Retail centre convenience comprises attributes that determine the non-financial costs of patronising a retail centre 162
8.2.4 Research Question 2: Do the dimensions of retail centre convenience differ across demographic and psychographic variables? 163
8.2.5 Research Question 3: Do the attributes of retail centre convenience differ across demographic and psychographic variables? 163
8.2.6 Research Question 4: How important is retail centre convenience? 164
8.2.7 Research Question 5: Does the importance of retail centre convenience differ according to demographic and psychographic variables? 165
8.2.8 Proposition 3: Consumers' most preferred retail form will be the one offering the greatest convenience. 166
8.3 CONTRIBUTION TO THE ACADEMIC DISCIPLINE 167
8.3.1 Theoretical Contribution 167
8.3.2 Methodological Contribution 168
8.4 MANAGERIAL IMPLICATIONS 170
8.5 LIMITATIONS OF THE STUDY 172
8.6 RECOMMENDATIONS FOR FUTURE RESEARCH 173

REFERENCES 175

LIST OF TABLES

Table 1.1	A comparison of shopping centres and shopping strips	8
Table 1.2	Comparison of shopping centres and shopping strips in terms of convenience	9
Table 3.1	A literature summary of retail centre convenience attributes	33
Table 4.1	Multi-item measurement scales used to operationalise retail centre convenience	68
Table 4.2	Rotated Component Matrix for the dimensions of convenience scale	70
Table 4.3	Table 4.3 Rotated Component Matrix for the attributes of convenience scale	71
Table 4.4	Correlations of each dimension item with its own scale	72
Table 4.5	Rotated Component Matrix for the importance of attributes scale	79
Table 5.1	Classification of categories for the shopping strip	94
Table 5.2	Classification of categories for the shopping centre	94
Table 6.1	Consumer shopping frequency to the two retail forms	97
Table 6.2	Consumer shopping frequency to the two retail forms by retail centre preference	97
Table 6.3	Perception of most convenient retail form by retail centre preference	98
Table 6.4	One-way ANOVA tests for the dimensions of convenience	101
Table 6.5	Independent-sample T-tests for the dimensions of convenience	102
Table 6.6	The dimensions of convenience by gender, age and income	102
Table 6.7	The dimensions of convenience by location, preference and education	102
Table 6.8	One-way ANOVA tests for the meaning of convenience	105
Table 6.9	Independent-sample T-tests for the meaning of convenience	106
Table 6.10	The attributes of convenience by location and retail centre preference	107
Table 6.11	The attributes of convenience by gender, age and income	110
Table 6.12	Logistic regression analysis of the most convenient retail form as a function of attitudinal, belief and demographic variables	114
Table 6.13	Mean scores for attribute importance as a function of retail centre preference	115
Table 6.14	Correlation of the dimensions and attributes of retail centre convenience	117
Table 6.15	The importance of the five strategies by gender, age and income	119
Table 6.16	The importance of the five strategies by location and retail centre preference	119
Table 6.17	Independent-sample T-tests for the importance of the five strategies	119
Table 6.18	One-way ANOVA tests for the importance of the five strategies	120
Table 6.19	The importance of convenience attributes by segment	122
Table 6.20	One-way ANOVA tests for the importance of convenience attributes	123
Table 6.21	Independent-sample T-tests for the importance of convenience attributes	125
Table 6.22	Correlation of the convenience and importance of retail centre attributes	130
Table 6.23	The significance of the discriminant functions	133
Table 6.24	Within group correlations	133
Table 6.25	Centroids of retail centre preference in discriminant space	134
Table 6.26	Classification accuracy	134
Table 6.27	Logistic regression analysis of retail centre preference	135
Table 6.28	Mean scores for attribute importance as a function of retail centre preference	136
Table 7.1	A comparison of importance scores and rankings by retail centre preference	141
Table 7.2	The provision of parking attributes in shopping centres	142
Table 7.3	The provision of parking attributes in shopping strips	143
Table 7.4	A comparison of public transport factors across the two retail forms	144
Table 7.5	The provision of one-stop shopping in shopping centres	145
Table 7.6	The provision of one-stop shopping in shopping strips	145
Table 7.7	Location and population density for shopping strips and shopping centres	146
Table 7.8	The distance between compatible stores	147
Table 7.9	Percentage composition of functions in open-air sectors of shopping strips	148
Table 7.10	Percentage composition of functions in enclosed sectors of shopping strips	149
Table 7.11	The provision of extended trading hours across the two retail forms	150
Table 7.12	The design of shopping strips	151
Table 7.13	The design of shopping centres	152
Table 7.14	Concentration scores for shopping strips and shopping centres	152
Table 7.15	Composition of shopping centre core by category	154
Table 7.16	Composition of shopping strip core by category	154
Table 7.17	Composition of shopping centre intermediate zone by category	155
Table 7.18	Composition of shopping strip intermediate zone by category	156
Table 7.19	Composition of shopping centre periphery by category	157
Table 7.20	Composition of shopping strip periphery by category	157
Table 7.21	A comparison of salient access attributes across retail forms	159

LIST OF FIGURES

Figure 1.1	The Conceptual Framework	14
Figure 2.1	Model of Retail Centre Patronage Behaviour	21
Figure 3.1	The Conceptual Framework	49
Figure 4.1	The research design process for the demand-side analysis	54
Figure 4.2	Defining retail centre convenience	66
Figure 4.3	The Attitudinal Model	72
Figure 4.4	Measuring the importance of retail centre convenience	78
Figure 5.1	A typical division of zones in a shopping strip	91
Figure 5.2	A typical division of zones in a shopping centre	91
Figure 6.1	Definition of retail centre convenience	137
Figure 6.2	The salient attributes of retail centre convenience	139
Figure 8.1	Definition of Retail Centre Convenience	163
Figure 8.2	The relationship between convenience attributes and patronage behaviour	165

ABSTRACT

Retail literature suggests that convenience serves as a less than salient influence over retail centre patronage. This could be due however to the way in which convenience has been defined (Brown 1989). This study offers an alternative definition of retail centre convenience based on consumer beliefs about its meaning. Retail centre convenience is proposed to consist of dimensions that are common to the generic meaning of convenience, and attributes that are specific to a retail centre. This definition was then used to determine its importance. Two distinct methods were used for this purpose. The first method focused on consumer attitudes towards retail centre convenience. The second method compared shopping strips and shopping centres against its salient attributes. If retail centre convenience does serve as a salient influence over patronage behaviour then the most preferred retail form should also be the most convenient.

Several methods were used to analyse the data for the purposes of addressing the research questions and propositions of this study. One-sample T-tests, independent-samples T-tests and ANOVA tests were used to determine consumers' beliefs about the dimensions and attributes of convenience and the consistency of these beliefs. Chi-square analysis, correlation analysis and logistic regression were used to determine the importance of retail centre convenience. Independent-samples T-tests, ANOVA tests and discriminant analysis were used to measure the consistency of consumer attitudes.

It is found that retail centre convenience consists of three dimensions and sixteen attributes. This finding provides a stark contrast to existing definitions, none of which used more than four attributes to define it. Analysis also revealed that consumers were relatively consistent in their beliefs about the dimensions and attributes of retail centre convenience. Retail centre convenience was found to exert a salient influence over retail centre preference. While there were significant variations across attitudes towards the importance of many attributes, most were too small in magnitude to alter the overall attitude towards the importance of an attribute.

In spite of the finding that respondent preference is evenly divided between the two retail forms, the comparison of the two retail forms indicated that the shopping centre is more convenient than the shopping strip. This anomaly can be explained by the differing attitudes the patrons of the two retail forms hold towards the convenience and importance of retail centre attributes. While patronage behaviour is influenced by convenience attributes, it is consumers' beliefs and attitudes towards these attributes, rather then their actual provision that ultimately determines retail centre preference.

This study represents the first academic effort to define retail centre convenience according to consumer beliefs about its meaning. The belief that it consists of sixteen attributes has important implications for managers, with previous academic efforts limited to just four. Analysis utilising this definition revealed that in the context of multipurpose shopping, convenience serves as the most important determinant over retail centre preference. The failure of existing academic studies to recognise this may explain why rejuvenation efforts based around alternative retail strategies have often failed.

CHAPTER 1
INTRODUCTION

The purpose of this chapter is to provide an overview of this thesis. It begins by detailing the background to the research, tracing the recent history of shopping strips and shopping centres and the influence convenience has played in their varying fortunes. In effect, this chapter serves as the first of three that provide a review of literature on the meaning and importance of convenience. From this background stem the research problem and propositions that justify the study. This is followed by a description of the research methods that will be employed, the scope of the study and a brief outline of the chapters that comprise this thesis.

1.1 BACKGROUND TO THE RESEARCH

Retailing serves as a vital industry, accounting for approximately 20% of employment and 25% of GDP in western economies (Guy 1994; Levy & Weitz 2001). Its importance extends beyond merely providing consumers with the proper assortment and quantities of products and services. Retailers facilitate exchange via transaction handling, by holding inventory, and by providing information, convenience and atmosphere (Davidson, Sweeney & Stampfl 1988; Ghosh 1994; Levy & Weitz 2001). Such is its importance that Burstiner (1991) proposed that retailers serve as change agents, gatekeepers, opinion leaders and innovators in the process of the diffusion of popular culture, and that it is through retailing that consumers participate in society.

For most types of store retailing, location is the single most essential element contributing to retail performance (Berman & Evans 2001). Retail centres are important to retailers because they allow them to achieve economies of scale via shared facilities and by promoting their shared interests. They are also important to consumers because they facilitate price comparisons and reduce uncertainty, search costs and the risk of stock-outs (Oppewal & Holyoake 2003). Despite the emergence of contemporary retail formats such as specialty centres, discount centres, power centres and strip shopping centres (Kirkup & Rafiq 1999), location analysts typically distinguish between two broad categories of retail shopping areas: shopping strips and shopping centres (Lewison 1997). A shopping strip comprises a series of independent shop fronts that have grouped together along arterial roads and is not centrally owned or managed (McColl-Kennedy & Kiel 2000). A shopping centre is an architecturally unified group of retail premises that have been planned, developed, owned and managed as an integrated operating unit and have common ownership and property management (Carlson 1991; Berman & Evans 1998). If retailing is to continue to provide many of its traditional functions much will depend upon the fortunes of these two retail forms.

1.1.1 The fall of the shopping strip

The shopping strip once reigned supreme as the economic and social centre of its hinterland. Its supremacy however has been challenged. While the products it sells and the consumers it serves have changed dramatically, the shopping strip itself has changed little (Burns 1983). Shopping strips still display characteristics of a retail environment that evolved in response to the railway (Gautschi 1981). In fact, many continue to display retail characteristics that are at least 150 years old (Dawson 1988). Although it remains a major force in retailing, the shopping strip has forfeited substantial market share to the shopping centre, often resulting in its demise and decay (Hajdu 1988; Carlson 1991; Schiller 1994; Levy & Weitz 1998; Berman & Evans 2001).

While there are many reasons behind the plight of the shopping strip, a key cause is its lack of planning (Northern 1987; Levy & Weitz 1998). This is no more evident than in its merchandise offering. With no controlled leasing, the shopping strip typically boasts a tenant-mix with too many stores of one type and not enough of others (Davidson et al 1988; Berman & Evans 1992; Ghosh 1994). This often translates into an excessive duplication of lower-order or *convenience* goods, and a lack of higher-order or *shopping* and *specialty* goods (Eaton & Lipsey 1982; West, von Hohenbalken & Kroner 1985; Eppli & Benjamin 1994), complicating fundamental shopping tasks such as comparison-shopping and multi-purpose shopping.

Shopping strips are restricted in their ability to provide an ideal tenant-mix by free market forces that create a constant turnover of retailers (Jones & Simmons 1990). Such instability also makes it difficult for the shopping strip to create a synergistic image (Kirkup & Rafiq 1994). Moreover, its aging retail facilities (Burstiner 1991) have often meant a deterioration in the cleanliness, quality, safety and attractiveness of shopping strips (Onibokun 1975; Lewison 1991; Mason, Mayer & Wilkinson 1993; Levy & Weitz 1998).

Another key factor was the suburban exodus that coincided with the introduction of the shopping centre (Burstiner 1991; Mason et al 1993; Lewison 1991). Comprised of predominantly upper- and middle-class consumers, it created a suburban market with a higher than average per capita income, leaving the shopping strip to contend with consumers from the lower classes (Rich & Jain 1971; Onibokun 1975; Pintel & Diamond 1991).

1.1.2 Rejuvenation strategies for the shopping strip

In response, government and various business groups (henceforth referred to as retail planners) have instituted a host of rejuvenation strategies. Efforts have been made to improve the shopping strip's infrastructure by improving its public transportation (Primo & Green 1988) and creating pedestrian malls (Hasty 1983). However the impact of such strategies has often been limited. Pedestrian malls for example, have often simply resulted in urban wastelands with serious crime problems (Worthington 1998). Similarly, strategies revolving around improved public transport have typically failed in car-oriented markets where shoppers have been reluctant to abandon the automobile (Rotoff 1981).

Strategies have also been introduced to improve the tenant-mix of the shopping strip. One such method involves offering anchor stores as major attractors (Beddington 1982). Such strategies often fail however because the magnet store simply cannibalises the sales of existing traders (Whysall 1995). An alternative approach was to use the shopping strip's size and diversity to differentiate it from the shopping centre. Many believed that even the regional shopping centre could not compete with the drawing power of larger shopping strips such as the Central Business District (CBD) (Applebaum & Cohen 1961). In 1973, the average size of an American shopping centre measured just over 125,000 square feet (Peterson 1976). Just twenty years later, this had increased to approximately 600,000 square feet (Chain Store Age 1993). This same period witnessed the increasing mass of shopping centres in Britain as well (Schiller 1985), so that by 1991, it could boast almost 1800 shopping centres over 400,000 square feet in size (Guy 1994). As such, sheer size could no longer be guaranteed to differentiate the shopping strip from the shopping centre.

Retail planners also tried to make the shopping experience more entertaining through the use of aesthetic and lifestyle strategies. This strategy rests partly on the

premise that a key strength of the shopping centre is its visual appeal. Many shopping strips therefore undertook beautification schemes and even went so far as to standardise their storefronts in an effort to imitate the appearance of a shopping centre (Hasty 1983). This response also assumes that the recreational aspects of shopping serve as a key influence over patronage (Carlson 1991; Smith 1999). With key entertainment attractors such as cinemas, museums, parks, concert halls, restaurants and nightclubs typically located in the shopping strip, it possesses an important recreational niche. However recreational strategies are often less than successful because the shopping strip lacks the necessary architecture, tenant-mix and marketing programs to capture the entertainment market (Fickes 1998). Moreover many consumers assign a low priority to the recreational (Fram 1992; McMillan 1994) and aesthetic features (Nicholls, Kranendonk & Roslow 2002) of shopping.

A fourth strategy revolves around re-marketing the shopping strip (Lord 1985A). This involves devising promotional strategies and special events (Jones 1989; Warnaby & Davies 1997; Smith 1999), such as loyalty schemes (Worthington 1998) and festival markets (Alzubaidi, Vignoli, Davies & Schmidt 1997). In comparison with the shopping centre, the shopping strip lacks a clearly defined positioning strategy. Promotion is therefore needed to create the necessary image for revitalisation (Houston & Nevin 1980). As with many of the other strategies however, promotion in isolation will not lead to any long lasting improvement as it fails to address the essential problems confronting the shopping strip. Furthermore, strategies such as festival markets can simply result in the cannibalisation of business from retailers within the shopping strip (Stokvis & Cloar 1991). Research has also consistently shown that advertising is relatively unimportant to consumers. For example, one study found that advertising ranked fifteenth in importance out of seventeen possible attributes influencing retail centre patronage (Gentry & Burns 1978).

Rather than seek to attract out-shoppers, an alternative strategy is to focus on the office populace working in the strip (Nelson 1958). With almost two thirds of urban travel being of a multi-purpose nature, the employment base of a retail centre (the term retail centre is used to collectively refer to shopping strips and shopping centres) serves as an important determinant of where working consumers shop (Hanson 1980). Such a strategy is often limited however because even capital cities can yield high office vacancy rates and this in combination with declining public sector employment, means it carries an element of risk (Holliday 1983; Allan 1993).

Retail planners have also tried managing the shopping strip as a means of rejuvenation. One of the greatest strengths of the shopping centre lies in its planned nature. There is growing recognition that any response the shopping strip takes should also be a planned one (Spriddell 1980; Page & Hardyman 1996; Warnaby, Alexander & Medway 1998). In order to accomplish this, retail planners have initiated managed responses such as Town Centre Management (Britain), Business Improvement Areas (Canada) and StreetLife (Australia). These schemes have adopted many of their management concepts from the shopping centre, covering such diverse goals as:

- Improving the aesthetic appeal of the shopping strip;
- Ensuring shopping strip design and decor is consistent with existing or historic features;
- Devising common covenants covering such areas as window displays and signage;
- Providing a safe environment for shoppers;
- Providing assistance to retailers with market analysis, merchandising plans and cost reduction;
- Controlling the tenant-mix to ensure it complies with overall objectives including undertaking tenant retention programs;
- Initiating cooperative advertising, special events and public relations;
- Raising levies to finance improvement schemes;
- Lobbying government on issues such as taxation (Kaye 1989; Jones 1990; Jones & Simmons 1990; Stokvis & Cloar 1991; Leistritz, Ayres & Stone 1992; Tomalin & Pal 1994; Warnaby et al 1998).

Of the six strategies, a managed response provides the most realistic solution for the rejuvenation of the shopping strip. This is because it directly counteracts a key strength of the shopping centre - its planning. It must be noted however that it represents a mechanism, rather than a strategy, for revitalisation. In reality, a managed response represents an organised means of instituting a collation of strategies drawn primarily from existing measures. As such, its prospects for success are only as good as the strategies it comprises. And for reasons already discussed, many of these strategies fail to provide realistic and/or universal solutions for many shopping strips.

1.1.3 The shopping strip is inconvenient

Due to the historical origins of the shopping strip, it was inevitable that the introduction of the automobile would have a dramatic impact (Pintel & Diamond 1991). Traffic congestion and a lack of parking caused widespread problems in an environment tailored to public transport and the pedestrian. For the foot shopper, the new torrent of cars created a nerve-racking, even dangerous, place to shop. In the words of Nelson and Wright (1943, in Longstreth 1998, p 269), "the pedestrian lost his right to do anything but dodge". Today the shopping strip is still often perceived as crowded, noisy and stressful (Uzzell 1995).

Retailers initially balked at the idea of sacrificing valuable selling space to provide parking. When they did, they focused on providing parking for their own customers rather than the community as a whole. When community projects were provided, they were usually expensive and at prohibitive distances. As a result, parking problems served as a major deterrent for many shoppers. In an effort to alleviate traffic congestion, some councils even tried to discourage consumers from using their cars by banning curbside parking (Longstreth 1998). Having quickly acclimatised to the car, consumers soon found that already prohibitive walking distances between stores seemed even more distant (Agergard, Olsen & Allpass 1970). Such an attitude is not unreasonable: it is not unusual even for smaller shopping strips to extend over ten blocks (Longstreth 1998).

Research began to reveal that when asked why they preferred shopping centres rather than shopping strips, shoppers commonly cited convenience as the key reason (Jones 1969; Carlson 1990). Amongst the many and varied advantages it offers the consumer, one underlying theme pervaded the very essence of the early shopping centre: its convenience (Thompson 1967). In trying to combat the

shopping centre, the shopping strip ignored the fact that convenience has driven most innovations in retailing (Seiders, Berry & Gresham 2000).

In combination, factors such as limited trading hours (Mason et al 1993), poor parking provision (Ghosh & McLafferty 1991; Mason et al 1993; Berman & Evans 1992; Levy & Weitz 1998), shops spread over excessive distances (Ghosh 1994; Loukaitou-Sideris 1997), traffic congestion (Northern 1987; Ghosh & McLafferty 1991; Mason et al 1993), poor store compatibility (Berman & Evans 1992) and exposure to the elements (Levy & Weitz 1998) naturally created the condition whereby a more convenient retail form would not only emerge, it would ultimately succeed. The time was ripe for the emergence of the shopping centre.

1.1.4 The impact of the shopping centre

The impact of the shopping centre was both immediate and dramatic. Smith (1956) described the shopping centre as one of the most significant developments in retailing. Laing (1992) proclaimed the shopping centre as the primary medium and message of post-World War Two prosperity. Burstiner (1991) proposed that it had changed the very nature of consumer shopping. Whereas it had once followed the suburban exodus, its role quickly evolved to shaping it (Gillette 1985). Accordingly, it was described as the most significant institutional mechanism contributing to the decentralisation of urban retail trade (Davidson et al 1988). And based on its 200-fold increase in the U.S.A in the period 1950-80, Spink (1981) described it as the most rapid and effective development concept. In fact by 1960, industry experts had devised a shopping centre prototype, the success of which could be replicated in almost any market. In effect, it became an "industrialised product" whose rate of development simply depended on the rate of car ownership (Maitland 1985).

Such plaudits were not without some justification. In the U.S.A, in the period 1964-1980, the number of shopping centres increased from 7600 to 22050 (Davies & Rogers 1984). By 1987 the U.S.A boasted 30000 shopping centres, accounting for 8% of the labour force, 13% of G.N.P, and more than 50% of total retail sales (Feinberg & Meoli 1991). During the 1980's, in a typical month, 174.4 million adults, or 94% of the adult population, visited shopping centres in the U.S.A (Stoffel 1988). Over this period the American consumer spent more time in shopping centres than anywhere else outside of home and work. Almost every American consumer visited a shopping centre at least once a month, with most making about two trips a week (Carlson 1990). It was therefore no surprise that Americans ranked shopping centres third behind only churches and hospitals as America's most respected institutions (Laing 1992).

As a result, the shopping centre came to be known as the "Main Street of America" (Engel, Blackwell & Miniard 1993, p 608), relegating the CBD to just one of many retail nodes within the urban landscape (Spink 1981; Dawson 1988; Mees 1993). It soon became commonplace for the CBD to account for less than 10 percent of a city's retail sales. In the process, its role was often reduced from serving what had once been the entire metropolitan area to serving the office population and the transient and inner city resident (Dent 1985; Mees 1993). However, the impact of the shopping centre was not limited to the CBD. The rapid expansion of shopping centres brought about a precipitous decline in shopping strips of all sizes (Lord 1985B).
Despite having only recently been introduced, by 1954 sales in America's suburban shopping centres had already surpassed the total retail sales of all metropolitan centres with a population exceeding one million (Gillette 1985). In the subsequent period 1954-77, retail activity declined in all American CBD's, with sales falling by an average 51.5% (Robertson 1983). And in the period 1977-1984, while overall retail

expenditure across America was increasing by 12%, CBD sales fell 50% (Alzubaidi et al 1997).

Shopping centres have had a similar impact in Australia (Watkins & Whitlock 1990). Most Australian shopping strips suffered at the hands of shopping centres in the three decades following their introduction (Merrilees & Miller 1996). Despite recovering some market share, shopping strips continue to yield vacancy rates well in excess of most shopping centres (Smith 1995). Prior to the introduction of the shopping centre, the share of metropolitan retailing held by each of Australia's five largest cities had exceeded 50%. By 1986 their market share ranged between just 6% and 13% (Mees 1993). The unprecedented success of the shopping centre was not limited to Australia and America. In almost all countries sales in shopping centres increased at a faster rate than retail sales in general (Dawson & Lord 1985).

1.1.5 The shopping centre succeeds due to planning and population growth

Based on the notion that retailing follows the population (Scott 1970), the success of the shopping centre has been popularly attributed to population growth and distribution (Dent 1985; Shaw 1985). The population shift to suburbia in particular is commonly cited as a key factor behind the growth of the suburban shopping centre (Muller 1981; Spink 1981; Carlson 1991; Ghosh & McLafferty 1991). The vast majority of U.S.A post-war growth occurred in the suburbs, consisting of mainly middle class white consumers (Jones 1969). The impact of the suburban exodus was magnified by the fact that the average suburban income was 70% higher than the national average (Smith 1956). Such was the influence of the suburban movement, its impact upon population distribution was dubbed "the donut syndrome" (Allan 1993).

The shopping centre's spatial strategy not only targeted densely populated areas (Alexander & Muhlebach 1992), but higher income areas as well (Morrill 1987). Possessing larger stores and a concentration of higher-order functions, the shopping centre was able to provide the depth and breadth of merchandise sought by higher income earners (Berry 1963). Hence, its success was also attributed to its ability to effectively target the large middle class market (Davies 1974). The increasing level of car ownership also favoured the shopping centre (Jones 1969; Gautschi 1981; Davies & Rogers 1984; Shaw 1985), allowing it to target the more affluent and mobile shopper (Northen 1987). Such was its success in pursuing the affluent shopper, Goss (1993) described the shopping centre as a *purified social space* designed essentially for white middle class Americans to protect them from the moral confusion that a confrontation with social difference might provoke.

Based on the fact that the growth in shopping centre floor-space outstripped population growth nine-fold in the period 1972-80, the success of the shopping centre cannot be attributed solely to a population growing in size and income. Its ability to act as a substitute to existing retail facilities was an equally important factor (Lord 1985B).

The intrusion of the car into what had previously been a predominantly pedestrian environment meant the shopping strip lost much of its social quality (Northen & Haskell 1977). Shopping centres quickly assumed this role, evolving from a mere selling facility into a mechanism for improving social and civic life (Gillette 1985). Today the shopping centre serves as the preferred retail environment for consumers looking to satisfy social (Uzzell 1995; Swinyard 1998) and recreational needs (Shim & Eastlick 1998; Swinyard 1998; Wakefield & Baker 1998). These motives were further satisfied as a result of the shopping centre's lower crime rate (Onibokun 1975; Burstiner 1991; Lewison 1991; Mason et al 1993; Berman & Evans 1992;

Levy & Weitz 1998; Dunne & Lusch 1999) and appealing appearance (Dunne & Lusch 1999).

A fundamental reason behind the success of the shopping centre is its ability to plan all aspects necessary for retail success. The shopping centre has been described as a management form rather than a building (Carlson 1990), and its control and management cited as the key factors differentiating it from the shopping strip (Dawson & Lord 1985). Shopping centre managers can provide a range of services such as generating positive public relations, devising special promotions, and assisting retailers with store layout, product lines, pricing, sales-promotions and store decor (Greenspan 1987; Kaye 1989; Abend 1990).

In order to encourage greater spending, planners fashioned a fantasy environment to create the illusion that something more than just shopping was occurring (Goss 1993). Entrances complete with canopies, columns, glass atria and aesthetic flora are deliberately designed to standout as an 'oasis' in an otherwise featureless environment created by a blank exterior wall and an expansive parking lot. Upon entering, sliding doors automatically close behind the consumer, physically and psychologically isolating them from the outside world (Lagerfeld 1995). In fact it has been suggested that the shopping centre was not only enclosed to provide protection from the elements, but to also create the perception of a physical fortress designed to exclude minority groups and all non-retail activities (Sandercock 1997). It further reinforced this perception by instituting its own trading hours and security force, and orienting its key activities inwards, leaving only its featureless walls facing the surrounding environment (Maitland 1985; 1990). Its planning even extends to such subtleties as maintaining its temperature at a scientifically determined level for optimum human comfort, playing psychologically researched soothing music, strategically placing bakeries for their desirable odours, positioning seating so that it always faces store windows, and installing mirrors to create the illusion of larger crowds and space (Woodward 1978; Goss 1993; Lagerfeld 1995).

Its planned nature also allows the shopping centre to create a positive, unified image (Berman & Evans 1998; Levy & Weitz 1998; Dunne & Lusch 1999). A key means of achieving this is via the deliberate choice of a tenant-mix that reflects the image the centre wishes to portray (Carlson 1990). And due to its ability to plan for a balanced tenant-mix, it can avoid the excessive duplication of lower-order goods, lack of higher-order goods and excessive competition that characterise the shopping strip (Davidson et al 1988; Carlson 1991; Mason et al 1993; Pintel & Diamond 1991; Levy & Weitz 1998). Hence, the shopping centre is designed to provide the optimal amount of replication to satisfy consumers needs for comparison and multi-purpose shopping. Such planning not only focuses on what functions will be offered, but also where, thereby providing a means of manipulating pedestrian flow (Sim & Way 1989).

The shopping centre can also create a uniform image through its design, layout and decor (Peterson 1989A). Even amenities such as lighting, bins, seating and signage are used to provide a uniform image (Beddington 1982). Its planned nature also allows it to initiate coordinated responses to environmental changes. For example, as ethnic populations continue to grow, gain in affluence and maintain cultural identity, shopping centres have been able to adapt their merchandise mix, aesthetic appeal, signage, advertising media, sponsorship of special events and even food courts (Doocey 1993). Similarly, in response to the growing 'green' movement, shopping centres have initiated recycling, waste management and energy conservation programs (Reynolds 1990A). The fragmented nature of the shopping strip makes such coordinated responses considerably more difficult.

In combination these factors provided the shopping centre with numerous sources of comparative advantage over the shopping strip (table 1.1).

Table 1.1 A comparison of shopping centres and shopping strips

THE SHOPPING CENTRE	THE SHOPPING STRIP
Coordinated decor	Decor determined by individual retailers
Ability to plan the "ideal" tenant-mix	Tenant-mix determined by market forces
Recreational appeal serves as a key drawcard	Noisy, stressful environment hampers shopping fun
Controlled competition	Excessive competition
Unified management, marketing and image	Laissez-faire approach
Unified ownership provides spatial flexibility	Fragmented land ownership limits spatial flexibility
Repairs are coordinated to minimise impact	Number of stakeholders complicates repairs
Can coordinate response to market change	Unified response to change almost impossible
Designed to accommodate major stores	High cost and limited land flexibility deters majors
Modern appearance	Aging retail facilities

1.1.6 The shopping centre offers shopping convenience

The early success of the shopping centre was immediately attributed to its superior shopping convenience (Mertes 1953; Baker & Funaro 1954; Kelley 1958; Cox 1959; Gruen & Smith 1960; Thompson 1967). As Lillibridge (1948) noted, all aspects of its design reflected the fundamental principle that shopping centres exist primarily to facilitate consumer purchasing. With the introduction of the shopping centre came the notion that convenience was now challenging price as the major determinant of patronage (Martin 1982). Such is the association between shopping centres and convenience that definitions of the former typically make direct reference to convenience attributes such as parking and access (Smith 1956; Jones 1969; Guy 1994).

From its very inception, shopping convenience served as the guiding criterion in shopping centre design (Gruen & Smith 1960). Unlike shopping strips, consumers cannot drive directly to a store in an enclosed shopping centre, and so must be encouraged to walk from store to store. For this to happen, consumers must be physically capable of visiting all areas of the shopping centre (Northen & Haskell 1977). The law of diminishing returns also applies to shopping centres and beyond a given size fatigue will limit consumer movement (Lion 1976). The shopping centre was therefore designed to provide a compact retail environment that would encourage high pedestrian flow throughout its confines (Ghosh 1994; Weiss 1996).

These convenience considerations set limits on the size of early shopping centres (Nelson 1958). Shopping centres were designed to take into account consumer reluctance to walk more than 200-250 metres (Smith 1956; Nelson 1958; Jones 1969; Northen & Haskell 1977; Maitland 1985). In the words of Jackson (1951, p 34), 'In developing a shopping center adequate provisions must be made to hold the average distance the shopper must walk to a minimum'. To achieve this, planners sought to avoid utilising a linear design (Applebaum & Kaylin 1974). When such a design was used, planners rigidly adhered to the principle that its length should not exceed two hundred metres (Maitland 1985), even if it meant adopting a multi-level design to reduce horizontal walking distances (Lion 1976).

Another key attribute of the shopping centre was its parking. So much so in fact that Martin (1954) proposed that its ultimate success rested on the convenience of its parking facilities. The external layout of the early shopping centre was completely geared to providing convenient parking (Welch 1951). Its parking convenience however was not limited to the number of spaces. It also sought to minimise the walking distance between stores and parking (Welch 1951; Martin 1954). Such was

the focus on convenience in early shopping centre design that Rouse (1962, p 107) was moved to ask, "Has convenience been overemphasised?"

Many of the shopping centre's strengths do in fact stem directly from convenience. A short summary of these includes:

- Easy parking;
- Easy access;
- Climate control;
- One-stop shopping;
- Pedestrian malls;
- Locating compatible stores together;
- Offering a range of shopping services;
- Extended trading hours; and
- Proximity to suburban homes (Carusone 1970-71; Beddington 1982; Abend 1990; Reynolds 1990B; Mason et al 1993; Ghosh 1994; Berman & Evans 1998; Levy & Weitz 1998; Dunne & Lusch 1999).

Furthermore, each of these attributes served to differentiate the shopping centre from the shopping strip (table 1.2).

Table 1.2 Comparison of shopping centres and shopping strips in terms of convenience

THE SHOPPING CENTRE	THE SHOPPING STRIP
Easier access and minimal traffic friction	Traffic barriers and traffic congestion
Parking provision in proportion to centre size	Often provides limited parking
Climate control	Vulnerable to extreme weather
High quality consumer amenities	Limited amenities: often poorly maintained
Merchandise variety within a compact area	Stores are often spread over a large area
Retailers separated from service providers	Retailers dispersed amongst non-retail functions
Compatible stores are located together	Location is determined by market forces
Provides many shopping services	Service is limited to actions of single retailers
Coordinated and extended trading hours	Limited and varied trading hours
One-stop shopping	Shopper must often visit multiple shopping strips

1.1.7 The shopping centre falters due to population factors

Many of the same reasons used to explain the rise of the shopping centre have also been used to account for the problems facing America's regional shopping centre. A declining birth-rate (Hirschfeld 1979) contributed to a retail oversupply (Carlson 1991; Ghosh & McLafferty 1991; Kirkup & Rafiq 1994), which in the period 1974-84 saw American retail footage increase 80% while the population increased just 12% (Engel et al 1993). By 1999 it was approximated that there was 20 square feet of shopping centre space for every man, woman and child in America. The end result was an average vacancy rate of 13% across America's regional shopping centres (Homsy 1999).

With the oversupply came increased competition. Contemporary shopping centre variations such as the strip shopping centre, power centre and lifestyle centre combined to erode the market share of the regional shopping centre (Lagerfeld 1995). Rising energy costs gave in-town shopping a boost by making public transport a more attractive alternative (Hirschfeld 1979; Leibowits 1981). Significantly, the suburban movement that fuelled the growth of the shopping centre was reversed in some markets due to changing lifestyles. With many suburban baby-boomers never having experienced an 'authentic' urban street environment,

the re-emergence of the shopping strip served as a major source of fascination (Gunning 2002). American consumers began shifting back to the inner city as a result of falling crime rates and the excitement of urban culture (Reda 1997). This produced clusters of wealth in selected inner city areas, and this in combination with their employment, transport and tourism role provided a captive market for some shopping strips (Rogers 1987).

Many retailers also began returning to shopping strips, not only in pursuit of growing markets, but also to avoid the disadvantages associated with locating in shopping centres. These include higher rents, an overly competitive environment, domination by large anchor stores and the restricted flexibility caused by centre policies and the demands of major tenants (Berman & Evans 1992; Ghosh 1994; Levy & Weitz 1998; Dunne & Lusch 1999).

1.1.8 The regional shopping centre is inconvenient

From their very inception shopping centres were designed to provide shopping convenience. However, with shopping centres vying with one another in terms of comfort and convenience, many began to shift focus (Maitland 1985). The regional shopping centre transformed from specialising in convenience (Thompson 1967) to specialising in aesthetics and entertainment (Jones & Simmons 1990; Gilman 1992; Muhlebach 1998). The shopping centre sought to transform shopping into a leisure activity by including cinemas, leisure arcades, food courts and amusement rides as part of its offering. It adopted a specialist focus that saw the rise of fashion and discount centres and a move away from one-stop shopping (Ghosh & McLafferty 1991). And in spite of the mounting evidence indicating that shoppers were looking for time-saving strategies, the shopping centre sought to increase consumer expenditure by actually extending the duration of a shopping trip (Levy & Weitz 1998; Berman & Evans 2001).

The regional shopping centre was initially designed to provide convenience in the form of one-stop shopping, easy access and parking (Guy 1994). However, with its shift in focus came a change in fortune. The regional shopping centre, which once served as a convenience form capable of surpassing all other retail forms (Thompson 1967), was surpassed by its more convenient counterpart, the strip shopping centre (Carlson 1991). Despite indications that shoppers were reluctant to travel excessive distances, many shopping centres were built in outlying areas (Muller 1981; Engel et al 1993). Subsequently, consumers frequently cited excessive distance (Chain Store Age 1985), time scarcity (Marketing News 1997) and overall inconvenience (Roy 1994; Cavanaugh 1996) as key reasons for avoiding regional shopping centres. Ironically, Kelley (1958) had noted that the failure of other retail forms could be attributed to the fact that many had ignored the lessons implicit in shopping centre success: convenience. In another ironic twist, Maitland (1990) had noted that breaking the rules tended to be a feature of each new phase of shopping centre design.

In order to encourage consumers to travel the extra distance, and consistent with the assumption that size is synonymous with attraction (Huff 1964; Clark 1968), planners began including more stores (Muller 1981; Schiller 1985; Peterson 1989B). This in combination with its new emphasis on entertainment (Muhlebach 1998), meant that shopping centre development became characterised by a 'bigger is better' philosophy (Young 1985; Jones & Simmons 1990). However, the sheer size of many American shopping centres soon proved an added deterrent (Chain Store Age Executive 1986; Berry & Cooper 1990). Consumers began complaining about the excessive distances between shops, and between parking lots and shops (Hayden 1981; Rogers 1987; Walker 1991; Loudon & Della-Bitta 1993; Finn,

McQuitty & Rigby 1994; Dunne & Lusch 1999; Seiders et al 2000). Shopping icons such as the Mall of America were now being dubbed "anti-customer" (McMillan 1994).

By 1990, smaller shopping centres had emerged as the dominant retail form in America, with convenience serving as a key reason for the shift in consumer preference (Walker 1991; Hartnett 1995A). In 1985, 56% of consumers visited a neighbourhood shopping centre on a weekly basis (Chain Store Age Executive 1985). During this period shoppers were, on average, visiting smaller shopping centres about twice as often as regional shopping centres (Gilman 1992). Neighbourhood shopping centres, and to a lesser extent, community shopping centres, are still both currently out-performing regional shopping centres in terms of sales productivity and profit (Chain Store Age 2000).

By comparison, the regional shopping centre fared poorly. In the period 1978-85, the proportion of consumers visiting regional shopping centres on a weekly basis fell from 60% to just 18% (Chain Store Age 1985). Another study from the same period found that just 11.8% of consumers visited a large shopping centre more than once a week, with 41.8% visiting no more than once a month (Tat & Thompson 1983). This trend continued through the remainder of the 1980's with the number of consumers making frequent trips to shopping centres continuing to fall (Waldrop 1991). In the period 1989-97, monthly visits to shopping centres fell from 3.7 to 3.1 (International Council of Shopping Centres 1998). In 1994, only 10% of consumers visited a shopping centre 'very often'; less than half the number (24%) that 'never' visited one. Just as disconcerting was the fact that this latter figure had doubled since 1987 (Berry 1996). This trend has been replicated in Australia with consumer preference for shopping centres slumping from 78% to 50% in the period 1996-2001 (Honeywill 2001).

Not only did the number of trips to larger shopping centres fall, but so too did the number of stores visited, and the hours spent shopping (Walker 1991; McMillan 1994). Between 1978 and 1981 the average number of stores visited per trip fell from 4.5 to 3.8 (Chain Store Age 1985). By 1995, this figure had fallen further still to just 2.2 store visits per trip (International Council of Shopping Centres 1998). Based on these sorts of changes in consumer shopping patterns, Nicholls et al (2002) concluded that the golden age of shopping centre dominance was now over.

With consumers no longer regarding large shopping centres as convenient (Cavanaugh 1996), local shopping strips emerged as the preferred retail environment for the first time in twenty years (Retail World 1996). Ironically, this shift in preference was brought about by convenience attributes such as the shopping strip's proximity to home and work, its public transport (Mason et al 1993; Berman & Evans 1992; Hobson, Sampson & Stimson 1994), and its potential to allow consumers to park directly outside desired stores (Levy & Weitz 1998).

For centuries the traditional shopping strip served as the mainstay of retailing. And yet, within a few short years of the arrival of the shopping centre, it had forfeited its market supremacy. While there are many possible explanations for this, a re-occurring theme was the convenience of the shopping centre. However, in an effort to differentiate itself in an increasingly competitive market place, the larger shopping centre deviated from its original source of competitive advantage, pursuing a recreational niche at the expense of convenience. Almost as quickly, consumer preference shifted back to the shopping strip and smaller shopping centres. In pursuit of the ultimate form of shopping convenience, consumers are even turning to the Internet. In combination, these trends indicate a general tendency for the

fortunes of retailing to move in favour of the most convenient shopping form (Seiders et al 2000).

Academic studies however have yielded the counter-intuitive finding that convenience exerts a less then salient influence over shoppers patronage behaviour. This study argues that such findings are due more to the way in which convenience has been conceptualised and operationalised rather then consumers true attitude towards it. In order to address this research flaw, this study will seek to develop a definition of retail centre convenience based on the meaning consumers, rather then academics, assign to it (this issue is discussed in chapter 3). This alternative definition will then be used to determine the influence of retail centre convenience over consumers patronage behaviour.

1.2 RESEARCH PROBLEM AND PROPOSITIONS

The general research problem to be addressed in this research is:

What influence does retail centre convenience have over consumers patronage behaviour?

Anecdotal evidence suggests that retail centre convenience serves as a salient influence over consumers patronage behaviour. However, empirical research based on academic definitions suggests otherwise. An underlying premise of this research is that this finding has more to do with the way in which retail centre convenience has been defined then its actual influence. This is because existing definitions have been limited to academics own interpretation of its meaning. Before proceeding to determine the importance of retail centre convenience, an alternative definition must first be developed based on consumers perceptions of its meaning. This leads to the first research question:

Research Question 1: How do consumers define retail centre convenience?

The alternative definition will be based on the notion that retail centre convenience consists of dimensions that are common to the general meaning of convenience, and attributes that are specific to retail centre convenience. Consumer beliefs about the convenience of retail centre attributes are determined by their influence over the dimensions of convenience. This leads to the following propositions:

Proposition 1: Retail centre convenience comprises dimensions that represent the non-financial costs of patronising a retail centre.

Proposition 2: Retail centre convenience comprises attributes that influence the non-financial costs of patronising a retail centre.

A major research flaw in academic studies of retail centre convenience has been the inconsistency in the definitions used to measure its importance. This raises the possibility that this same lack of a universal definition may also apply to consumers. This leads to the second and third research questions:

Research Question 2: Do the dimensions of retail centre convenience differ across demographic and behavioural variables?

Research Question 3: Do the attributes of retail centre convenience differ across demographic and behavioural variables?

Once the alternative definition has been tested for its consistency with consumer beliefs, it can then be used to measure the influence of retail centre convenience over patronage behaviour. This leads to the fourth research question:

Research Question 4: How important is retail centre convenience in determining patronage behaviour?

Research into convenience in general has found that its importance varies across consumers. In order to determine the importance of retail centre convenience it is necessary to ascertain whether its salience is consistent for all consumers, or whether it is simply limited to a smaller set of shoppers as existing retail literature suggests. This leads to the fifth and final research question:

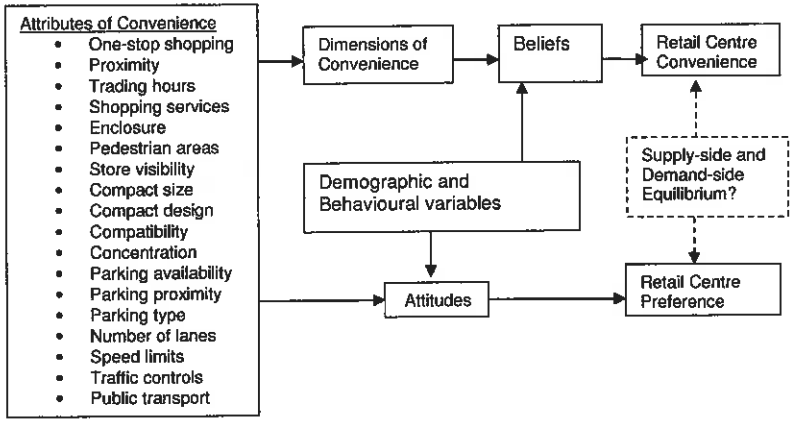
Research Question 5: Does the importance of retail centre convenience differ across demographic and behavioural variables?

Based on the review of literature provided in section 1.1, there is anecdotal evidence that the most preferred retail form mirrors the most convenient retail form. If retail centre convenience does serve as a salient influence over patronage then the most preferred retail form should also be the most convenient. This leads to the third research proposition:

Proposition 3: Consumers most preferred retail form will be the one offering the greatest convenience.

The conceptual framework (figure 1.1) depicts these research questions and propositions. Convenience attributes determine the cost of patronising a retail centre (it is proposed that the dimensions of convenience constitute the non-financial cost of undertaking an activity). Consumer beliefs about retail centre convenience therefore consist of those attributes that minimise the non-financial costs of patronage. These beliefs may be influenced by consumers demographic and behavioural variables.

Figure 1.1 The Conceptual Framework



The convenience attributes of a retail centre will also determine consumers' attitude towards it, thereby influencing retail centre preference. In order to effectively establish the importance of retail centre convenience, it must also be determined whether consumers demographic and behavioural variables moderate their attitudes towards the importance of its attributes. Due to the inherent problems in developing valid indicators, multiple methods of data collection will be utilised (de Vaus 1995). As an additional measure of the importance of retail centre convenience, a supply-side comparison of shopping strips and shopping centres will be undertaken. If convenience does serve as a salient influence over patronage, then respondents should exhibit a greater preference for the retail form that is most convenient. The salient attributes of retail centre convenience identified in the demand-side analysis of respondents beliefs and attitudes will serve as the criteria for the supply-side analysis of the convenience offered by shopping strips and shopping centres.

1.3 JUSTIFICATION FOR THE RESEARCH

The importance of a retail centre stems from its ability to influence settlement structure, and create employment and new investment (Kirkup & Rafiq 1994). Its influence extends beyond economics, to include a social, cultural and entertainment role as well. In order to support and maintain this role, a healthy retail centre is essential (Jones 1989). However the over-supply of retail assets relative to demand (Kirkup & Rafiq 1994) and unparalleled social and technological change has created an uncertain future for many retail centres.

One such technological force has been Internet shopping. Due to social forces such as time scarcity (Schultz 1997) and the emergence of more discerning shoppers (Evans, Christiansen & Gill 1996; Underhill 1999), many consumers are turning to the Internet in search of shopping convenience (Hazel 2001). This would suggest that convenience serves as a salient influence over patronage behaviour. However academic studies have typically produced the counter-intuitive finding that convenience is a less-then-salient influence relative to recreational and social strategies. This study proposes that such findings are due to the way in which academics have defined retail centre convenience (Brown 1989). In the process of exploring this proposition, this study makes a number of original contributions to existing knowledge.

The first contribution stems from the development of an alternative definition of retail centre convenience. This definition consists of two parts. The first part is based on the generic interpretation of convenience and is drawn from consumer sources of meaning such as dictionaries. This process identified convenience as a phenomenon that occurs when the non-financial costs of undertaking an activity are minimised. Based on a review of literature it is proposed that these non-financial costs relate to the time, space and effort required to shop at a retail centre. These costs serve as the criteria for the second part of the definition: identifying the convenience attributes of a retail centre. The review of literature identified eighteen attributes with the potential to influence these costs. This serves as a significant contrast to existing definitions none of which contain more then four attributes. An important contribution of this study stems from the empirical examination used to compare the alternative definition for its consistency with consumer beliefs towards retail centre convenience.

This definition will then be used to re-examine the influence of retail centre convenience over patronage behaviour. In the process it seeks to make two further contributions. The first of these relates to the attitude-behaviour relationship. This relationship is a contentious one with academics evenly divided as to its merits (Runyon & Stewart 1987; Assael 1992; Wilkie 1994). This study seeks to provide further insight by establishing whether an empirical relationship exists between consumer perceptions of the most convenient retail form, and their most preferred and frequented retail form. The second contribution relates to the context in which the behaviour is measured. Due to its importance and the lack of research surrounding it (Blommestein, Nijkamp & van Veenendaal 1980), multi-purpose shopping will serve as the shopping context for this study.

A review of literature reveals that the importance of convenience in general varies according to consumers demographic and behavioural characteristics. In order to determine whether the appeal of retail centre convenience is universal, or merely limited to a smaller subset of shoppers as the literature suggests, this study will empirically examine whether attitudes and beliefs towards retail centre convenience vary according to variables such as age, income and gender.

This study also has practical implications for retail planners. Retail planners that base their convenience strategies on existing academic studies are limited to just four attributes. If however it can be empirically established that retail centre convenience consists of as many as eighteen attributes, then retail planners will be provided with a far more conclusive list with which to improve the convenience of their retail centres. Furthermore, many of the attributes utilised in existing definitions are in fact symptoms, such as traffic hindrance, access time and ease-of-wayfinding. Such descriptors are less useful because they do not make it clear what attributes are needed to influence them. As such, these definitions are not only limited by their inability to include all convenience attributes, they also often fail to specifically identify how to increase the convenience of a retail centre. This study will seek to remedy this research flaw by utilising a more conclusive definition, and will be limited to the actual attributes of a retail centre.

1.4 RESEARCH METHODOLOGY

This section provides a brief overview of the research methodology adopted in the thesis. A detailed discussion and justification of the procedures used is provided in chapters 4 and 5.

1.4.1 Conceptual development

A conceptual framework was developed based on an examination of literature relating to retail centre patronage (Spencer 1978), retail centre characteristics (McCarthy 1980; Gautschi 1981; Weisbrod, Parcels & Kern 1984), multivariate attitude approaches (Gentry & Burns 1978; Nevin & Houston 1980; Howell & Rogers 1980), urban economics (Papageorgiou & Thisse 1985) and the influence of consumer characteristics over patronage behaviour (Bellenger, Robertson & Hirschman 1977).

1.4.2 Operationalisation of the constructs

For the demand-side analysis, single-item and multi-item scales were utilised to determine the meaning and importance of retail centre convenience. Single-item scales were used to measure the meaning and importance of retail centre convenience in terms of its attributes, while multi-item scales were used to determine the dimensions of convenience. Existing scales could not be utilised because previous studies have ignored the need to determine the specific meaning or importance of retail centre convenience. New measures were developed based on a review of relevant literature and pre-testing. To ensure consistency with consumer perceptions, dictionaries, thesauruses and a linguistic expert were also utilised. For the supply-side analysis, separate operational measures were developed for each of the salient convenience attributes based on a review of literature. These operational measures are detailed in chapter 5.

1.4.3 Unit of analysis

The unit of analysis in this study was retail centre convenience. In order to determine its meaning and importance a demand-side analysis of a sample of 1600 households from the greater Melbourne area was utilised. Primary adult shoppers from within each household were selected as the sampling elements. For the supply-side analysis, an audit of retail centres located within the geographic sampling frame was undertaken to determine whether the most preferred retail centre was also the most convenient. Salient convenience attributes identified from the demand-side analysis served as the unit of analysis for the supply-side analysis.

1.4.4 Instrument

A structured questionnaire comprising the proposed dimensions and attributes of retail centre convenience was the primary method of data collection for the demand-side analysis. Its primary focus was determining the dimensions and attributes used by consumers to define retail centre convenience, and the importance of these attributes. For the supply-side analysis, personal visits were made to each of the retail centres within the geographic sampling frame. These visits were used to create a database containing information on each of the salient attributes of retail centre convenience.

1.4.5 Data collection

For the demand-side analysis, a structured questionnaire was mailed to 1600 households in the greater Melbourne area. The cover letter requested that the primary adult shopper in each household complete and return the questionnaire in the enclosed reply-paid envelope. For the supply-side analysis, personal visits to each retail centre were used to collect data relating to the salient convenience attributes.

1.4.6 Data entry and analysis

Data entry and analysis for the demand-side analysis was carried out using SPSS 10.0 for Windows. Calculations of Cronbach alpha, factor analysis, convergent and discriminant analysis were used to refine the dimensions scale and ensure its reliability and validity. Various measures were used to determine the meaning and importance of retail centre convenience and the consistency of these beliefs and attitudes. These techniques included various ANOVA and T-tests, correlations, discriminant analysis and logistic regression. For the supply-side analysis, shopping strips were compared against shopping centres for each of the salient attributes of retail centre convenience. The criterion upon which each of these comparisons was based varied for each attribute. A detailed discussion and justification of these criteria is provided in chapter 5.

1.5 SCOPE OF THE THESIS

The scope of this thesis is limited by several methodological considerations. The first of these relates to the target population for the study. The responsibility for shopping varies according to the role each individual plays within the household (Assael 1992). Questionnaires will be directed to the primary adult shopper in each household (Recker & Kostyniuk 1978; Shim & Eastlick 1998) due to the important deciding and purchasing roles they play in the purchase process (Kotler, Brown, Adam & Armstrong 2001). This approach also addresses several of the potential errors that can occur in attitude research, namely lack of *direct experience, lack of perceived instrumentality* and *low involvement*. These issues are discussed further in section 4.5.3.

The second consideration relates to the shopping context. Because attitudes are context specific (Quee 1999), they must be measured in a specific shopping context, which then serves as a frame of reference for the respondent. There are three broad shopping contexts – multi-purpose shopping, and the purchase of lower-order and higher-order goods. Measuring consumer attitudes towards convenience in the context of lower-order goods provides no contribution to new knowledge and is prone to criticisms of researcher bias because convenience is already acknowledged as the primary criterion behind the purchase of such goods (Assael 1992). Conversely, the purchase of higher-order goods is often linked with a recreational orientation (Bloch, Ridgway & Nelson 1991; Dholakia 1999) creating a potential bias that may understate the importance of convenience. A multi-purpose shopping context provides an alternative to two shopping contexts that may either understate or exaggerate the importance of convenience. Due to its importance (Hanson 1980; McLafferty & Ghosh 1986; Ingene & Ghosh 1990) and the fact that multivariate research has often ignored it (Blommestein et al 1980), multi-purpose shopping will serve as the shopping context for this research.

The third consideration related to the type of retail centres to be used. In order to determine the importance of retail centre convenience, the study will focus on its influence over respondents' preference for either shopping strips or shopping centres. In order to ensure validity, measures of the influence of convenience must

be limited to those shopping strips and shopping centres that compete at the same level within the urban hierarchy. Otherwise retail centre preference can be determined by any number of other influences. Moreover, the sampling frame must include retail centres capable of providing for multi-purpose shopping. Analysis was therefore limited to community and regional level retail centres. Due to its unique position within the urban hierarchy, the CBD was not included in the study.

The fourth consideration related to the size of the geographic sampling frame for the study. A potential problem in utilising the attitudinal concept arises when respondents do not have direct experience with the attitude object (Engel et al 1993). Because experience derives from retail centre patronage, and patronage is in turn influenced by proximity (Patricios 1979; Potter 1982), a radius of fifteen kilometres was used. This figure was not only determined by consumers average travel time to larger retail centres (Tat & Thompson 1983; Chain Store Age 1985), it also offered a geographic sampling frame containing a relatively high concentration of community and regional level retail centres. Importantly, limiting the size of the geographic sampling frame facilitated comparisons between the demand- and supply-side analyses. In order to determine whether respondents most preferred retail form is also the most convenient, it is essential that the same set of retail centres be used for both analyses. To ensure the validity of the research it was therefore decided to utilise a limited geographic sampling frame within the greater Melbourne area.

1.6 OUTLINE OF THE THESIS

The thesis consists of eight chapters, which are outlined below.

Chapter 1

Chapter one provides a background and overview of the thesis.

Chapter 2

Chapter two reviews the literature relating to the potential importance of retail centre convenience. It also evaluates the merits of alternative strategies that are typically preferred over retail centre convenience. The chapter concludes with the proposition that the lack of salience attributed to retail centre convenience is due to the way in which it has been defined.

Chapter 3

Chapter three reviews the literature to develop an alternative definition of retail centre convenience. Based on the review, a two-part process is developed as the basis for the definition. In the first part of the process, the generic meaning of convenience is determined. This generic meaning relates to the non-financial costs of undertaking an activity. In the second part, these non-financial costs are used to identify the attributes of convenience as they relate specifically to retail centre patronage. Research questions are then developed to test the propositions on which the alternative definition is based.

Chapter 4

Chapter four describes the research methods used to determine how respondents define retail centre convenience and the importance they assign to it. It presents in detail the research design, the sampling and data collection procedures and the methods used to operationalise the constructs utilised in the demand-side analysis. The reliability and validity of the key constructs is examined using Cronbach alpha, factor analysis, convergent and discriminant analysis.

Chapter 5

Chapter five details the research methods used to determine which of the two retail forms is most convenient. This outcome will be based on a comparison of shopping strips and shopping centres against the salient attributes of retail centre convenience as determined by the demand-side analysis. This chapter describes the methods used to operationalise each of these attributes.

Chapter 6

Chapter six presents the results from the demand-side analysis relating to research questions one through five and research propositions one and two. Consumer beliefs about the meaning of convenience and their attitudes towards its importance are examined using ANOVA and T-tests, correlations, discriminant analysis and logistic regression.

Chapter 7

Chapter seven presents the results from the supply-side analysis relating to the convenience of the two retail forms. These findings establish whether the most preferred retail form is also the most convenient.

Chapter 8

Chapter eight integrates the key findings from the review of literature with the results from chapters six and seven. It identifies the theoretical and methodological contributions to academic knowledge and the implications for managerial practice. It also details the limitations of the research and makes recommendations for future research.

1.7 SUMMARY

This chapter presented an overview of the thesis outlining the background of the research, research problem, conceptual framework and subsequent propositions. The importance of the research was detailed and an outline of the research methodology, scope and structure of the thesis was also provided. Chapter two reviews the literature relating to the potential importance of retail centre convenience and the merits of alternative strategies.

CHAPTER 2
THE IMPORTANCE OF RETAIL CENTRE CONVENIENCE

2.1 INTRODUCTION

In chapter 1 the research background provided anecdotal evidence indicating that convenience has exerted an important influence over the recent evolution of retail centres. This chapter reviews the literature for further supporting evidence of the potential importance of retail centre convenience. It does this by examining the role of convenience in the patronage process. The review also explores the reasons as to why convenience is often overlooked in the design and rejuvenation of retail centres. As part of this process, the merit of alternative strategies often used in preference over convenience is explored in the context of the literature and emerging trends.

2.2 WHY IS CONVENIENCE SO IMPORTANT?

There is no shortage of practical evidence portraying the importance of convenience. The inception of microwave cooking, mobile phones, airport travelators and television remote controls, were all motivated by consumers need to save time and energy. From a retail perspective, automatic vending machines, drive-through pharmacies, self-checkout counters and pay-at-the-pump service stations (Liebeck 1996) were all designed to satisfy consumers growing need for convenience. Many retailers, recognising that convenience serves as a key determinant behind store patronage (Hisey 1996; Liebeck 1996; Salmon 1996; Wilensky 1996; Ander 1998), have therefore begun emphasising convenience-oriented strategies. Most significantly, convenience serves as consumers' key motivation behind the greatest threat to traditional retailing: the Internet (Yoffie 1997; Donthu & Garcia 1999).

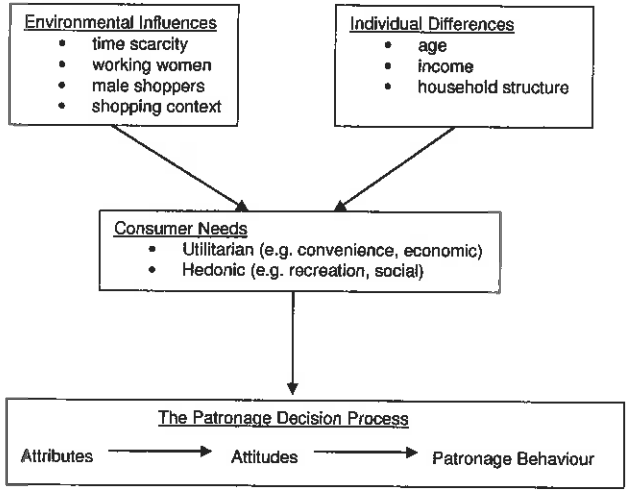
It is a natural impulse for consumers to wish to reduce the costs of shopping (Ratcliff 1949). In accordance with the *Principle of Least Effort* (Johnston & Kissling 1971), consumers possess certain physical tendencies and limitations towards which the retail environment must be tailored (Underhill 1999). When it comes to the consumer decision-making process, academics readily recognise that consumers seek to minimise the time and psychological effort dedicated to information search and product evaluation (Woodside & Trappey 1992). And yet many do not acknowledge that consumers may also seek to minimise time and physical effort during the actual purchase stage.

In reality, the very role of retailing is to provide convenience (Ratcliff 1949; Merrilees & Miller 1996) and this is set down in the specific set of services that retailers provide to consumers. In addition to possession utility, retailers also provide temporal utility - distributing products so that consumers can buy and consume them when they are needed - and spatial utility - ensuring consumers can buy these products in convenient locations (Assael, Reed & Patton 1995). Therefore a fundamental objective of a retail centre is to detect and transform the spatial and temporal dimensions of consumer demands (Curry 1967). And for this reason, consumers should be heavily influenced in their choice of retail centre by the facility offering the greatest convenience (Bender 1967; Sheth 1983).

2.3 CONVENIENCE AND THE PATRONAGE PROCESS

The decision by a consumer to patronise a specific retail centre stems from a three-stage process. During the first stage, environmental factors and individual differences serve to shape consumer needs. As the result of these influences, this second stage can manifest itself in the form of various shopping motives. For example, in the process of acquiring goods a consumer may seek to minimise their expenditure of time, effort and money, due to a convenience, economic or even apathetic orientation. Alternatively, they may be more interested in the act of shopping rather than the acquisition of goods per se, and therefore seek to satisfy motives relating to novelty-seeking, recreation and social interaction. While studies have empirically identified several shopper typologies (e.g. Stone 1954; Darden & Reynolds 1971; Bellenger et al 1977; Williams, Painter & Nicholas 1978; Eroglu & Machleit 1990; Babin & Darden 1994; Bloch, Ridgway & Dawson 1994; Chetthamrongchai & Davies 2000; Brown, Pope & Voges 2003), these can be categorised into two general categories of shopping motive – utilitarian and hedonic (Childers, Carr, Peck & Carson 2001; Alreck & Settle 2002; Ng 2003; Voss, Spangenberg & Grohmann 2003). Whichever motive is predominant provides the context in which the patronage decision process takes place. This third stage comprises a three-stage process of its own, with retail attributes providing the specific criteria that in influencing consumer attitudes ultimately determine patronage behaviour. Figure 2.1 visually depicts this process (adapted from Engel et al 1993).

Figure 2.1 Model of Retail Centre Patronage Behaviour



In order to emphasise the importance of convenience, it is necessary to understand its influence throughout each of these stages.

2.3.1 Environmental Influences

Environmental influences behind the growing importance of shopping convenience are as numerous as they are varied. Rising levels of consumer awareness, affluence and mobility have helped create a more discerning shopper. So have social trends such as increasingly individualistic lifestyles and the growth of non-traditional households. Our aging population serves to emphasise the need for less strenuous shopping environments. And despite their opposing nature, longer working hours and an increasing leisure orientation have also had an influence on consumers desire for convenience (Rees 1987; Alexander 1988; Gransby 1988; Berry & Cooper 1990; Berman & Evans 1992; Fram 1992; Evans et al 1996; Berry, Seiders & Grewal 2002). While these are all significant contributors, three factors in particular have had a dramatic impact upon the emergence of a convenience-oriented society. These are increasing time scarcity, working women and an increasing number of male shoppers.

2.3.1.1 Time: a scarce commodity

The modern consumer has been described as one whose basic constraint is time, rather than income (Schultz 1997; Dellaert, Arentze, Bierlaire, Borges & Timmermans 1998). Time and energy, like money, are resources to be allocated across competing uses. Unlike money however, time cannot be saved and must therefore be spent continuously (Becker 1965). As time is a fixed resource, the consumer must choose among activities according to the satisfaction they offer (Feldman & Hornik 1981). Consumers are as conscious of how they spend their time as they are their money (Holman & Wilson 1982), and actively consider time costs when making retailing decisions (Berry 1979). Convenience-oriented consumption represents a focal point between rising affluence and the increasing importance of time (Anderson 1971). Increasing affluence is actually expected to result in less, rather than more free time, because the alternatives competing for consumers time will rise significantly (Berman & Evans 1992). Longer working hours and the desire to increase leisure time have forced many consumers to redistribute time once devoted to shopping. Subsequently, the time spent shopping per month has fallen (Schultz 1997) leading some to conclude that a convenience-oriented society has emerged (Lawson, Tidwell, Rainbird, Loudon & Della-Bitta 1996).

The evolution of the modern consumer into a more discerning shopper has also coincided with the arrival of the "improvisational" consumer. Living in a state of permanent hurry, they improvise throughout the day with time and convenience utmost in their mind (Liebeck 1996). It is this time scarcity that has served as a key factor behind the emergence of a convenience-oriented society (Berry 1979). As the result of increasing time pressure, consumers have begun undertaking several activities simultaneously and varying shopping times and locations (Davies 1997). As many shopping trips begin with a preconceived time limit in the mind of the consumer, the efficient use of time represents a major shopping variable (Downs 1961). In fact, the utility derived from shopping can be equated to the amount of time involved in its undertaking (Feldman & Hornik 1981). Time scarcity serves as an important situational influence over shopping behaviour, with changing shopping habits (Jacoby, Szybillo & Berning 1976; Berkowitz, Walton & Walker 1979; Darian & Cohen 1995; Gehrt, Yale & Lawson 1996), and the continued growth of time saving products (Berry 1979), providing testimony to the importance of the temporal dimension of shopping.

The increasing importance of time has been caused by a variety of social and demographic changes, most notably:

- The emergence of non-traditional households;
- Higher educational levels;
- The increasing number of working women;
- Greater participation in leisure activities;
- The need for self-fulfilment; and
- Increasing affluence (Yale & Venkatesh 1986; Berman & Evans 1992).

The need to create a retail environment that minimises the temporal costs of shopping has long been recognised by academics (Kelley 1958; Dommermuth & Cundiff 1967; Achabal, Gorr & Mahajan 1982). Many retailers have also acknowledged it. While some larger retail firms have focused on making shopping a more entertaining experience (Smith 1999), others have taken the view that retail success involves saving the customer time (Discount Store News 1996). Consumers have responded to increasing time pressure by modifying their behaviour in order to increase shopping efficiency (Dellaert et al 1998), ignoring those retailers that increase the cost of shopping by wasting their time. Some retailers have responded by shifting focus from that of their own productivity to that of the consumer, and offering greater convenience. As a result, speed of retail provision now represents a key source of competitive advantage (Ander 1998).

2.3.1.2 Working women seek convenience
Research has revealed a particularly strong desire for convenience amongst working women (Miller 1995; Ander 1998). With three out of four women now employed outside the home, the notion of households with a non-working wife available to do the shopping, belongs to a by-gone era (Ander 1998). Compared with their 'non-working' counter-parts, working women:

- Dislike shopping, placing greater value on leisure and travel;
- Do not perceive the shopping role as being central to their self concept;
- Are forced by time pressures to constrain the frequency and duration of their shopping trips;
- Are less likely to utilise their leisure time shopping; and
- Value convenience when shopping (Berman & Evans 1992; Evans et al 1996).

Despite evidence suggesting that traditional gender roles are changing (Gershuny & Robinson 1988), women still retain the majority of homecare duties, including shopping. This limits the time available for shopping and further emphasises the importance of convenience (Bowlby 1985).

2.3.1.3 An increasing number of male shoppers
The increasing number of working women has forced many males to assume a greater responsibility for shopping. Their more prominent shopping role can also be attributed to the growth of all-male households. This has been caused by higher divorce rates, and the decision by many males to marry later in life, or remain single. Based on the emerging attitude that the shopping "chore" should be shared equally (Retail World 1994), men are beginning to accept more responsibility for shopping, and in categories not traditionally part of their domain (Evans et al 1996).

Although women still shoulder the majority of shopping responsibility, almost one in three households now report that shopping is a joint responsibility. However, unlike female shoppers whose shopping role has been legitimised as a social and

recreational activity, and a necessary expenditure of time, male shoppers are more likely to view shopping as a chore (Dholakia 1999). As such, the enjoyment often associated with shopping is typically limited to the female shopper (Waldrop 1991; Wakefield & Baker 1998). While a similar percentage of men and women regard price (86% and 87% respectively) and merchandise quality as important (71% and 73%), there is a stark contrast in the percentage who enjoy shopping (37% and 67%) (Klein 1998). Research on shopper typologies reports the growing importance of the apathetic shopper; a category of predominantly male shoppers that dislike shopping (Reid & Brown 1996). In terms of preferred leisurely pursuits away from home, men rank shopping last (Berman & Evans 2001). The end result is likely to be a discerning shopper who will not tolerate inconvenient retail centres (Alexander 1988; Underhill 1999). In fact, empirical research confirms that the most important shopping attributes to men do revolve around convenience (Klein 1998).

2.3.1.4 Shopping context
The context in which the shopping trip takes place will also serve as an important influence over consumers needs. Shopping trips can be classified as falling into one of three contexts: recreational shopping, convenience shopping and multi-purpose shopping. The focus of this study will be limited to multi-purpose shopping trips. The reasons for this are discussed in section 4.5.3.

2.3.2 Individual differences

Individual differences also exert an important influence over consumers shopping needs. The importance of convenience in general has been found to vary according to such individual differences as age (Tantiwong & Wilton 1985), education (Bellizzi & Hite 1986), gender (Klein 1998) and income (McEnally & Brown 1998). Consequently, convenience-oriented shoppers are often regarded as comprising a smaller subset of a much larger market (Stephenson & Willett 1969; Tauber 1972; Darden & Ashton 1975; Hansen & Weinberg 1979; Bellenger & Korgaonkar 1980; Lesser & Hughes 1986; Boedeker 1995). Such perceptions undermine the importance of convenience. However in considering this view, it must be noted that rather than relate to retail centre convenience specifically, these findings relate to convenience in general. Relatively few studies have sought to determine the specific importance of retail centre convenience. Those that have, utilised contentious definitions of convenience, creating the potential for its importance to be understated. This issue is the focus of chapter 3.

2.3.3 Consumer needs

As the result of environmental influences and individual differences, hedonic or utilitarian needs are formed. Convenience and recreational motives are often perceived as polar extremes lying at opposite ends of a patronage continuum (Bellenger & Korgaonkar 1980; Roy 1994). As such, a recreational strategy is typically viewed as an alternative rather than supporting strategy to convenience.

2.3.3.1 Hedonic needs
There is no shortage of studies confirming the existence of recreationally-oriented shoppers (Stone 1954; Grossbart, Mittelstaedt, Curtis & Rogers 1975; Bellenger et al 1977; Hansen & Deutscher 1978; Bloch et al 1994). The importance of recreation as a shopping motive lies in the fact that whereas the motives that drive behaviour may be product related, it is the emotions experienced within the market-place that often determine preference and choice (Dawson, Bloch & Ridgway 1990). Therefore, due to the recreational motives of shoppers (Hirschman & Holbrook 1982; Westbrook & Black 1985), many shopping trips may have more to do with obtaining satisfying experiences than obtaining goods (Hirschman 1984).

Recreation and the opportunity for social interaction are regarded as two of the key shopping outcomes alongside goods and information (Downs 1961; Salomon & Koppelman 1988).

According to the view that convenience and recreation represent competing motives, shoppers seeking convenience will utilise the Internet while those seeking entertainment will patronise retail facilities. In order to establish a niche, some stores have sought to provide what many believe the Internet cannot; an entertaining experience (McCloud 1999). Many American shopping centres have successfully pursued a similar strategy, using entertainment to quadruple the duration of the average visit from approximately one hour to four hours (Doubilet 1999). In some markets, the distinction between entertainment and retailing has begun to blur. Entertainment is one of the fastest-growing retail categories, with food courts, video arcades, ice rinks, gyms, bowling alleys and nightclubs emerging as shopping centre stalwarts. Capable of attracting in excess of one million consumers annually, the cinema is even being used to anchor some shopping centres (McCloud 1999). The importance of a recreational shopping focus is reaffirmed by research showing that shopping ranked third behind only television and the cinema for entertainment in North America (Stoffel 1988). The West Edmonton Mall for example, receives more visitors than Disneyland (Uzzell 1995), while the number of visitors to the Mall of America qualifies it as its state's third largest city (Levy & Weitz 1998).

However there is some debate as to whether recreation alone can ensure the survival of the retail centre. Research suggests that those who enjoy shopping represent the minority (Walker 1991), and that many consumers select their shopping destination based on convenience rather than atmosphere (Schulz 1991). Due to rising affluence, consumers have had many of their material needs satisfied, and therefore place less value on shopping (Turchiano 1990). Moreover, because many shopping trips simply involve replenishing food stocks and other non-recreational items, consumers seek convenience rather than entertainment (Seiders et al 2000). Analysts have interpreted reduced shopping times (Leinberger 1993; Murphy 1997; Schultz 1997), fewer store visits (Leinberger 1993; McMillan 1994) and increased buyer-conversion rates (Haynes & Talpade 1996), as heralding the transition from a recreational to a convenience-oriented society. Rather than representing a significant excursion in its own right, shopping is now often undertaken in the course of other activities (Kaufman 1995). Significantly, visits to shopping centres - the bastions of shopping recreation - have declined (McMillan 1994; Calandra 1996).

Rather than perceive shopping as a recreational activity, many consumers find shopping to be a stressful, boring, unenjoyable chore that interferes with leisure time (Fram & Axelrod 1990; Meyer 1990; Fram 1992; Shoebridge 1993; Liebeck 1996). Studies have reported that two in three consumers now regard shopping as 'drudgery', with only 6% rating it as their favourite activity (McMillan 1994). In fact, one survey revealed that 2 in 3 respondents could not name a single store they found interesting (Chain Store Age Online 2001). With shopping no longer providing a competitive form of recreation for most dual income families, and other recreational opportunities exceeding consumer resources, shopping is one activity likely to be sacrificed (Salmon 1996; Murphy 1997). In a study cited by Seiders et al (2000), consumers were found to spend just 1% of their total time shopping, and 52% of respondents intended to reduce this even further. And to echo the sentiments of Park (1999), when shopping is a chore, making it less painful or easier should take priority over making it more entertaining.

It should therefore be no surprise that attempts to turn shopping into a recreational and social experience have been less than successful (Howard 1990; Warner 1996;

Hazel 2000). This is particularly true for many shopping strips. Those elements of the shopping strip that can be considered "recreational" are often limited to hotels, cafes and restaurants. While efforts have been made to include other attributes such as street illumination, landscaping, plants, seating areas and background music, they exert little influence over consumers (Jansen-Verbeke 1987).

In terms of the shopping centre, its declining popularity (Cavanaugh 1996) has actually been attributed, at least in part, to consumer boredom and disinterest in shopping (Berman & Evans 2001). The shopping centre hoped to use entertainment and social elements as key strategies, and yet only one in four consumers visit for recreational purposes and only one in five for social purposes (Waldrop 1991). Even then, consumers drawn to shopping centres for recreation visit fewer stores and spend less on shopping (Haynes & Talpade 1996). Attempts to differentiate the shopping centre via recreational strategies have simply spawned a generation of generic centres (Chain Store Age Executive 1999; Doubilet 1999), thereby creating the same homogeneity and monotony that contributed to its downturn in the first place (Lagerfeld 1995).

By moving beyond selling to entertainment, academics have queried whether the 'land of make believe' that some shopping centres have become, actually serves the needs of consumers (Zeidler 1996). Due to factors such as crowding and noise, a combined-purpose strategy of shopping and leisure may conflict with those who wish only to shop (Finn et al 1994; Acland 2000). Its effective use may also be limited. In Britain it has been estimated that successful recreational shopping environments such as festival marketplaces require large support populations of at least one million, including working population and local residents (Guy 1994). Even where it is applicable, perpetual shopping entertainment may simply result in sensory overload (Jones 1999).

The enjoyment of shopping is often restricted to a limited set of purchase categories, such as clothing (Dholakia 1999), with convenience assuming priority for frequently purchased non-durable items (Indiana University 2001). The perception that shopping is a form of entertainment also changes as consumers progress through the household life cycle (Walker 1991). In fact, its appeal is often limited to consumers under the age of 25. From that point on the importance of convenience increases and the number of shopping trips declines, as does the number of stores visited (Gruen 1993; Baker 2001; Indiana University 2001).

The proposition that in-store retailing can only respond to electronic retailing by focusing on the pleasurable aspects of shopping (Pavitt 1997) has long been the cornerstone of those favouring recreational strategies. And yet, it ignores the fact that it is the inconveniences of traditional retailing that have helped drive consumers towards more convenient modes such as the Internet. Significantly, in-home buyers assign relatively little value to shopping entertainment (Blakney & Sekely 1994).

Retailers and retail planners acknowledge that aesthetic design and leisure facilities are of limited importance (Goble 1991; Walker 1992). Although architectural features add to the aesthetic appeal of a centre, they may have a detrimental impact by hampering store visibility (Ordway, Bul & Eakin 1988). For example, aesthetic features such as shade trees can block shoppers views of shops, while elegant streetlights and paving stones can distract attention from shops (Lagerfeld 1995). They are also easily replicated by competitors and can often inadvertently create the perception of an over-priced retail centre (McGoldrick & Thompson 1992). While an aesthetic design conveys the status of the retail centre and the type of consumer targeted (Guy 1994), the cost of maintenance is invariably passed on to consumers. In fact Laing (1992) went so far as to suggest that due to the high cost of lavish

courts and fountains, aesthetic strategies may have helped drive budget conscious consumers away from shopping centres to discounters.

2.3.3.2 Utilitarian needs
The need for convenience is not only regarded as conflicting with hedonic needs, but other utilitarian needs as well. Research has identified two fundamental shopper typologies: the price-oriented shopper and the convenience-oriented shopper (Bellizzi & Hite 1986). The standardisation and wider availability of many product lines has led to price and convenience assuming greater influence over where consumers shop (Kate & Walker 1992). Total customer value is determined by the difference between customer value and customer cost. When shopping, the consumer is faced with two types of costs, the actual cost of the product as represented by its price, and convenience costs, such as the expenditure of time and effort. The real price of a product comprises its selling price plus the opportunity cost of time and effort expended in its procurement (Jacoby et al 1976). Shoppers now sub-consciously add the cost of their time to the price of an item and compare the total cost of procurement against their shopping expectations (Wilensky 1996). As such, total customer value can be increased by either reducing the price of a product or reducing the time and effort involved in acquiring it (Kotler, Brown, Adam & Armstrong 2004). Faced with the problem of time scarcity many consumers are assigning increasing importance to convenience (Urquhart 1995; Hisey 1996).

2.3.4 The patronage decision process

Consumer needs having been shaped by environmental and individual factors are then used to evaluate the attributes that characterise each retail opportunity. This process of evaluation determines consumer attitudes and ultimately their patronage behaviour. It is important to note however that retail opportunities are not limited to retail centres. The importance of convenience raises the issue of whether retail centres will be superseded by more ultimate means of convenience such as the Internet.

2.3.4.1 Convenience and the Internet
The Internet has established a retail niche by offering consumers convenience, value, information and control over their shopping experience (Schneider 1995). Other factors that have contributed to the growth of Internet shopping include:

- Higher discretionary income;
- The societal transition from acquisition to replenishment;
- Poor traditional retail service;
- Its ability to facilitate information search and price comparison;
- The increasing use of credit cards;
- Its potential for lower prices;
- Falling computer prices;
- The growing number of service providers has made access cheaper;
- Increasing home computer ownership;
- Rapidly improving technology;
- The increasing number of personal computers in the workplace, an emerging generation of computer literate teenagers and better graphical interfaces have combined to make it easier to use (Smith 1988; Rowley 1996; Pavitt 1997; Shimp 1997; Doherty, Ellis-Chadwick & Hart 1999).

In spite of its strengths, many scholars and retailers are still sceptical of the Internet threat. Its inability to provide for physical inspection, and entertaining or social shopping experiences, is expected to ensure the survival of traditional retailing. The shop-from-home convenience of the Internet does not appeal to all consumers. If it

did retailers would have complimented their store-base with catalogue marketing long before the inception of the Internet (Forester 2001). It is also inaccurate to assume that consumers will automatically choose the most convenient shopping alternative. With conveniences there are inconveniences as well, in this case, being forced to forego the social and recreational elements of traditional shopping (Gehrt et al 1996) and the opportunity to physically inspect goods prior to purchase. Moreover, surveys show that the Internet still lags behind traditional retailing in terms of customer service and credit-card security (Chain Store Age Online 1999). There are also a variety of other hurdles it must overcome before it can seriously challenge traditional retailing. Such problems include:

- Its effectiveness depends upon the type of product and is likely to be limited to repeat purchases and functional shopping;
- As consumers must be motivated to search for a specific site, impulse buying is unlikely;
- It is a predominantly male retailing medium;
- The necessary technology, logistics infrastructure, protection of intellectual property, hacker-proof security systems and consumer confidence has yet to be fully developed (Adapted from Dholakia 1999; Doherty et al 1999; Roe 1999; Tan 1999; Corbett 2001; Ring & Tigert 2001).

Even if in-home shopping were to emerge as a significant threat, it would only emphasise the need to rejuvenate retail centres. Given that the attraction of in-home shopping derives from the desire to reduce the costs of traditional shopping such as time and effort (Berkowitz et al 1979; Darian 1987), convenience offers a viable means for traditional retail centres to protect their market share. This is confirmed by research showing that convenience serves as the primary motivation behind Internet shopping (Yoffie 1997; Donthu & Garcia 1999; Porter 1999). One study covering twelve countries in four continents found that convenience ranked as the most important reason behind Internet shopping for 86% of respondents (Hazel 2001).

2.4 SUMMARY

This chapter utilised a review of the literature to trace the importance of retail convenience via its influence over the consumer patronage process. The review revealed that convenience plays an important role in this process, particularly in relation to environmental influences. Such influences led to the 1980's (Gehrt & Yale 1993) and 1990's (Rubel 1995) being dubbed the *decades of convenience*. In spite of all this, many academics and practitioners continue to prefer pricing and recreational strategies to convenience strategies. This is because academic research has consistently shown that consumers attach relatively little importance to convenience in their patronage decisions. However, such a counter-intuitive finding could be due to the way in which academics have defined convenience, rather than the importance consumers assign to it (Reilly 1982; Yale & Venkatesh 1986; Brown 1989; Gehrt & Yale 1993; Gehrt et al 1996). This issue serves as the focus of chapter 3.

CHAPTER 3
THE MEANING OF RETAIL CENTRE CONVENIENCE

3.1 INTRODUCTION

This chapter explores the notion that the lack of salience assigned to retail centre convenience in academic studies is due to the way in which it has been defined. It begins by reviewing existing definitions from the literature and comparing these with the generic meaning of convenience. It then proposes an alternative definition using this generic meaning to identify the convenience attributes of a retail centre.

3.2 THE MEANING OF CONVENIENCE

Convenience is a term that can be applied to almost any human activity, be it work, travel, exercise, cooking or shopping. Convenience should therefore possess two meanings. The first relates to its generic definition – the meaning given to convenience irrespective of the activity being undertaken. A collated definition taken from the Collins, Oxford and Webster dictionaries portrays convenience as that which is easy to use, favourable to comfort or savings of trouble. As such, convenience occurs when the *barriers* to the undertaking of an activity are reduced or eliminated. The second meaning relates to the specific attributes necessary to make each activity more convenient. In order to ensure that the two meanings are consistent, it is essential that the criteria used to identify the attributes specific to each activity are based on the generic meaning of convenience.

In the field of retail research the *barriers* are widely referred to as costs (Ratcliff 1949; Kelley 1958; Downs 1961; Huff 1961; Bucklin 1966; Bender 1967; Entenberg 1967; Herrmann & Beik 1968; Thompson 1971; Reynolds & Darden 1972; Thill & Thomas 1987; Eppli & Benjamin 1994; Bell, Ho & Tang 1998). Therefore in order to define retail centre convenience, it is first necessary to identify those costs that must be reduced or eliminated in order for shopping convenience to occur. In a general retail context, these costs are:

1. Temporal costs;
2. The effort, both physical and psychological, expended while shopping;
3. Spatial costs;
4. The cost of searching for information;
5. The opportunity cost of having to forego competing activities;
6. Transport costs; and
7. Storage costs (adapted from Kelley 1958; Downs 1961; Bender 1967; Bucklin 1967; Hudson 1974; Narula, Harwitz & Lentek 1983; Thill & Thomas 1987; Gehrt et al 1996).

However, some of these costs relate to shopping in general and are irrelevant to the cost of patronising a retail centre, while others only exert an in-direct influence and are incorporated within other costs.

3.3 THE COSTS OF RETAIL CENTRE PATRONAGE

Of the seven costs, only two are likely to directly influence the cost of retail centre patronage (e.g. Kirkup & Rafiq 1994). The first of these is the temporal cost of patronage. As most shopping trips begin with a pre-conceived time limit, this reduces the major trip variable to the efficient use of time (Downs 1961). Such is the importance of time, the real price of a product has been described as its financial cost plus the time involved in its procurement (Jacoby et al 1976).

Effort (or energy) costs are the other direct influence. They have been overlooked in many academic definitions of convenience, presumably because they have been confused with temporal costs. The energy involved in undertaking an activity is perceived as being proportional to the time involved (Downs 1961), so that attributes that save effort have often been seen as saving time instead (Brown 1989). There are however, several attributes that save effort but not necessarily time, such as air conditioning, an escalator or a coat check service. It is important to note that *effort* extends beyond physical costs to include psychological costs such as stress as well (Berry et al 2002). Because stress influences patronage behaviour (Schultz 1997; Lewis & Bridger 1999), the effort involved in shopping represents a key cost. Shopping strips for example, are often regarded as stressful shopping environments (Uzzell 1995).

Spatial factors serve as another key cost to consumers, albeit an in-direct one. Traditional retail theories such as the principle of least effort are based on the assumption that consumers will seek to minimise spatial costs by patronising the nearest retail centre (Thill & Thomas 1987). Consumers will also seek to reduce the costs of intra-centre travel as well (Kelley 1958; Nelson 1958; Downs 1961). As to whether space serves as a direct cost however remains a subject of debate. Time and space are sometimes treated by academics as interrelated and substitutable concepts (Spence 1971; Ullman 1974). Crask (1979) for example, used distance as a surrogate measure for the cost of patronising a retail centre, on the assumption that it incorporated other costs such as time and effort. This approach would suggest that it is spatial costs and not temporal and effort costs that serve as the direct influence over the cost of shopping.

However, an alternative view holds that it is time that consists of several dimensions, one of which includes distance (Feldman & Hornik 1981). As time and space lie at opposite ends of a continuum (Jacoby et al 1976), consumers will either perceive a trip in terms of its duration or its distance (Gehrt & Yale 1993). Academics have often preferred temporal measures to spatial measures because they provide a more accurate indication of the cost and effort involved in shopping (Hubbard 1978). Consumers are also more aware of time-distance than spatial-distance (Spence 1971). This is particularly true in an urban context where traffic congestion can serve as a more important determinant of travel cost than distance (Jones & Simmons 1990). Because travel costs inevitably translate into temporal and effort costs, spatial factors only have an in-direct influence over the cost of retail centre patronage. However, because so many of the costs of retail centre patronage revolve around spatial costs, they have been included as a third cost alongside time and effort.

The remaining costs are either irrelevant to the cost of patronising a retail centre, or are incorporated within the aforementioned temporal, spatial and effort costs. For example;

- Information represents one of the three outputs of shopping, alongside goods and pleasure (Downs 1961). As the cost of

information is determined by the time, effort and distance involved in its collection, *search* costs are encapsulated within other shopping costs;

- Shopping also involves an *opportunity* cost, particularly for those consumers who regard it as a chore (Meyer 1990; Fram & Axelrod 1990; Fram 1992; Salmon 1996). However, as the opportunity cost is the time that could be spent partaking in other activities, it is included within the temporal dimension;
- Transport costs are determined by the distance a consumer must travel and the duration of the trip, and are therefore determined by spatial and temporal costs;
- Storage costs represent the cost of holding inventory and are not directly relevant to the cost of patronising a retail centre.

In using the term *costs* as the criterion for developing a definition of convenience, it is necessary to distinguish between non-financial and economic costs. Although dictionaries define convenience as consisting of non-financial costs, some academic definitions have associated it with the economic cost of a shopping activity (e.g. the price of a product). Such a view stems from the notion that consumers seek to minimise the expenditure of resources while shopping, these resources being time, effort and money (Ratcliff 1949; Downs 1961; Becker 1965; Crask 1979; Ingene 1984). This categorization of money with time and effort has created the situation where academic studies have often associated economic costs with convenience (e.g. Kotler & Zaltman 1971; Bellenger & Korgaonkar 1980; Graham 1981; Roy 1994; Bhatnagar, Misra & Rao 2000; Csikszentmihalyi 2000). In line with this view, income has been used as a proxy for the value of time (e.g. Forsythe & Bailey 1996) because time and money are interchangeable since the former may be converted into the latter by working, or by purchasing appliances that save time (Arndt & Gronmo 1977).

While *economic costs* represent a key shopping cost, they are not relevant to convenience. Economic and convenience motives represent conflicting terms because many consumers are prepared to spend more in order to attain convenience (Stephenson & Willett 1969; Williams, Painter & Nicholas 1978; Forsythe & Bailey 1996), or to incur the inconvenience of greater search costs in order to save money (Bellizzi & Hite 1986). Furthermore, many economic elements are encapsulated within other costs. For example, the economic cost of fuel can be reduced by eliminating traffic delays (temporal costs) or by offering one-stop shopping, thereby eliminating inter-centre travel (spatial costs). It has even been proposed that economic costs are incorporated within temporal costs because an economic cost simply articulates the monetary value of time (Yale & Venkatesh 1986). In spite of the evidence against it, empirical research has yet to determine whether consumers define convenience in economic terms. Therefore economic costs cannot automatically be discounted as a dimension of retail centre convenience.

It has also been proposed that convenience comprises not only costs, but social (Kelley 1958) and aesthetic dimensions (Kelley 1958; Risch 1987) as well. For example, Oppewal, Louviere and Timmermans (1994) classified cost-influencing attributes such as enclosure, shopping services and retail centre design under the aesthetic heading of *appearance, layout and furnishings*. Such categorisation may be due to the contemporary contention that retail success means satisfying both utilitarian and hedonic needs (Liebmann 2000). This creates the potential for retail centre convenience (in the form of a one-stop shopping destination) to also be confused with social and aesthetic factors.

As with economic costs, the social and aesthetic dimensions of a retail centre do not represent non-financial costs, nor do they fall within the temporal, spatial and effort costs of retail centre patronage. However in the absence of empirical research to the contrary, they cannot automatically be excluded from any definition of retail centre convenience.

In summary, in order to conceptualise and operationalise the construct retail centre convenience it is necessary to identify its attributes. In order to do this, some criterion must be utilised to determine which attributes will be tested. The attributes of retail centre convenience are those that influence the convenience of patronising a retail centre. The generic meaning of convenience therefore serves as the criterion for determining the attributes of retail centre convenience. As the review of literature has highlighted however, the precise definition of convenience as indicated by its dimensions is unclear. Therefore in the process of defining the meaning of retail centre convenience, it will also be necessary to establish the meaning consumers assign to convenience in its generic sense.

This study proposes that convenience comprises the non-financial costs of undertaking an activity. In the context of a retail centre, convenience can be defined as all those attributes that influence the temporal, effort and spatial costs of patronage. Significantly, Gehrt and Yale (1993) identified these same three costs in their qualitative study into how consumers define convenience in the context of a variety of consumption behaviours. However, in the absence of empirical research, other proposed elements of convenience such as economic, social and aesthetic dimensions cannot be overlooked. Due to the need to test for the inclusion of these three elements it is not possible to employ the commonly accepted term 'costs' to describe the elements of retail centre convenience. For the sake of clarity the term *dimensions* will be used instead to collectively refer to time, space, effort, economic, social and aesthetic elements as the six potential components of retail centre convenience.

3.4 A REVIEW OF EXISTING DEFINITIONS

A universal definition of retail centre convenience has yet to be adopted. This may be due in part to its dynamic nature meaning that what was convenient yesterday may not be convenient today (Berry & Cooper 1990; Seiders et al 2000). Consumer definitions of convenience continue to evolve in line with their increasing expectations (Hazel 1992). Whereas the vast car parks of shopping centres were once considered convenient, many consumers now shirk at the prospect of walking excessive distances from parking lots to stores. The meaning of convenience can also vary according to the situation. For the car-borne shopper, convenience may mean easy access and parking within a short distance of shops (Patricios 1979), for the shopper-on-foot it may mean public transport, pedestrian malls and a compact shopping environment.

Another possible explanation is the way academics have gone about defining convenience. Trade journals have typically studied convenience by asking respondents to identify and rate the attributes that constitute convenience. In stark contrast, academic studies have yet to specifically focus on retail centre convenience. Instead, scholars have typically measured consumer attitudes towards a variety of strategies and attributes, and then combined these into factors. The term *convenience* is then typically assigned to one of these factors based on the scholars' own interpretation of its meaning (e.g. Bellenger et al 1977; Howell & Rogers 1980; Bell 1999). This interpretation may not necessarily be consistent with that of consumers.

Irrespective of each of these possible explanations, convenience has been ill defined (Seiders et al 2000; Berry et al 2002). In a review of literature, Brown (1989) noted that convenience had been so poorly defined scholars had failed to even clarify its meaning. A review of literature validates Brown's criticism. Without exception, existing definitions have failed to identify and adequately address the three costs of patronage. While several scholars have recognised that consumers seek to minimise the cost of shopping (Becker 1965; Narula et al 1983; Thill & Thomas 1987; Ingene & Ghosh 1990; Bell et al 1998), only Kelley (1958) recognised this as convenience-oriented behaviour. Instead, cost-minimising consumers are regarded as being 'apathetic' (Stone 1954) rather than convenience-oriented. And so while convenience-oriented concepts such as consumer productivity, consumer efficiency and cost-minimising behaviour (Downs 1961; Boedeker 1995; Ander 1998) have been acknowledged for their importance, they have not been linked to convenience. This has often led to further confusion. For example, Williams (1981) distinguished between consumers seeking efficiency and those seeking to minimise time and effort. Given that efficiency is increased when inputs such as time and effort are reduced, such a distinction is neither necessary nor valid.

Those studies that did consider these costs were compromised by limiting their application. For example, Tang, Bell and Ho (2001) proposed that the costs of patronage are determined by the time and effort involved in *reaching* a retail facility, while Kirkup and Rafiq (1999) defined them as the cost involved in *getting to and from a retail centre*. Such interpretations ignore fundamental costs such as intra-centre travel, the frustration caused by limited trading hours, or the additional effort required to shop during extreme weather in an open-air retail centre.

Of the numerous studies that have endeavoured to identify the salient determinants of retail centre patronage, relatively few have provided a detailed list of attributes used to define convenience (table 3.1). Of these, no single study has employed more than four attributes to define convenience. This raises the likely problem that existing definitions have failed to encapsulate the true essence of convenience. Almost half a century ago, Cox (1959) argued that as consumers typically shop for multiple items, they seek aggregate convenience across the entire shopping trip. However subsequent definitions continued to focus on single-purpose, inter-centre attributes such as proximity, access and public transport, while failing to properly develop multi-purpose shopping attributes relating to one-stop shopping and intra-centre travel.

Table 3.1 A literature summary of retail centre convenience attributes

STUDY	Trading Hours	Proximity	Access	Low Prices	Parking	Way Finding	Other Services	Public Transport
Bellenger et al (1977)	*	*	*	*				
Howell & Rogers (1980)	*		*		*	*		
Palmer (1985)					*		*	
Oppewal et al (1994)			*		*		*	*
Bell (1999)	*	*			*	*		

Even a definition drawn from a collated summary of these studies is not without its theoretical imperfections. Such a summary provides a list of eight attributes; (1) trading hours; (2) location/proximity; (3) access/travel time/traffic; (4) low prices; (5) parking; (6) ease-of-wayfinding/convenience-in-centre; (7) the number of other services; and (8) public transport. This expanded definition still fails to incorporate all the attributes that influence the non-financial cost of patronising a retail centre. Research pertaining to each of these eight attributes indicates the academic confusion that surrounds the convenience construct.

3.4.1 Trading hours

It has long been recognised that the trading hours of a retail centre can influence consumers patronage decisions (Jonassen 1955; Downs 1970; Gantvoort 1971; Thompson 1971; Reynolds & Darden 1972; Samli & Uhr 1974; Patricios 1979; McCarthy 1980; Wee 1986). Trading hours may be important for several reasons. Firstly, travel decisions relating to the shopping trip include choice of departure time (Richards & Ben-Akiva 1974). Secondly, extended weekday trading allows consumers to engage in multi-purpose travel involving work and shopping. This is likely to serve as a key source of attraction given that a high percentage of work trips include shopping, the majority of which takes place after leaving work (Hanson 1980). Smith noted as far back as 1956 that U.S.A shopping centres were doing between 30-50% of their business after 7PM. By 1969, the U.S.A consumer spent almost twice as long shopping in the evening than during the day, with up to 60% of all community shopping centre trade and 40% of all regional shopping centre trade taking place after 6PM. In all, 31% of all shopping centre trips were made after 6PM (Jones 1969).

More recent research has done little to suggest that extended trading hours are any less important today. Almost three quarters of consumers are forced to shop on weekends, and 38% on weekday evenings because of time constraints (Fram 1992). One in two consumers report they will visit another retail centre if they are unable to complete a shopping trip due to limited trading hours (Lyons 1992). One study found the departure time of home based shopping trips was almost as likely to occur between mid-afternoon and midnight (45% of shopping trips) as it was during the traditional peak shopping period of 9.00 AM and 3.00 PM (51%) (Bhat 1998). And in a longitudinal study ranging just six years, consumers preferred shopping times showed a dramatic shift from before 3.00 PM in 1993 (59% of patrons) to after 3.00 PM (69%) in 1999 (Nicholls et al 2002).

The increased number of working women is commonly cited as a key reason behind the importance consumers assign to extended trading hours. The reasoning behind this is that due to their work commitments, women who were traditionally responsible for the majority of household shopping must now do so after normal business hours. This therefore emphasises the need for extended trading times. There is however an alternative viewpoint. Due to consumers propensity for multi-purpose trips, the impact of working women has simply led to a greater peak in lunch-time shopping (Rees 1987) as women look to complete their shopping before returning home. Studies have shown that 60% of the expenditure made by office workers in work-based shopping trips occurs during their lunchbreak (Houstoun 1990A). Research also shows that women are more likely to shop between 9.00 AM and 6.00 PM than in the periods 6.00 AM and 9.00 AM, and 6.00 PM and midnight (Bhat 1998). As such, the relative importance of trading hours remains unclear. While in theory time-scarce consumers would be expected to favour extended trading hours, in practice consumers may have responded by simply compacting their shopping into their lunchbreaks.

The trading hours of a retail centre serve as an important influence over the convenience it affords (Downs 1961). "Logically if the marketing concept has meaning, consumers should be able to shop when they choose. This means retailers have a responsibility to be open when customers want to shop" (Mason et al 1993, p 620). One of the key services retailers provide is time utility: making products available at times when they are needed (Assael et al 1995). Extended trading hours are now considered by retailers to be part of the value they offer their

customers and a key means of countering the temporal convenience offered by direct-marketers (Smith 1988; Schultz 1997).

In response to extended trading hours, many consumers have begun shopping more frequently (Berrell 1995), or at less busy times (Berry 1979). Many consumers choose when to shop on the basis of convenience considerations such as avoiding congestion and checkout delays (East et al 1994; Rubel 1995). Many consumers will also shop during less congested times due to severe time shortages (Herrington & Capella 1995; Chetthamrongchai & Davies 2000). The continuing trend towards extended trading hours has given rise to a new generation of consumers called "just-in-time" shoppers (Berrell 1995). They choose to shop at times which are convenient to them, which is often in the evening, when they can shop in a less crowded environment (Rubel 1995). By allowing the consumer to shop "off-peak" it also minimises some of the stress involved in shopping. As such, extended trading hours not only provide obvious temporal advantages, but can also minimise shopping effort as well. Restricted trading hours limit the time available to shop, forcing consumers to make imperfect choices (Hogbin 1983). They can also cause retail crowding (Harrell, Hutt & Anderson 1980) which further compounds access and parking problems (Hogbin 1983).

Despite the contribution it makes to shopping convenience (Downs 1961), several studies have failed to include trading hours as an attribute of convenience (Gentry & Burns 1978; Gautschi 1981). Instead it has been categorised under such headings as *operational* (Wee 1986), *sales incentives* (Wong et al 2001) and *general shopping area attraction* (McCarthy 1980). Equally disconcerting is the fact that studies have concluded that trading hours are an important influence over patronage behaviour, but convenience is not (Gentry & Burns 1978).

3.4.2 Proximity

The importance of a retail centre being located close to where consumers live or work is closely linked to the validity of Central Place Theory (CPT). In its strictest sense, CPT predicts that consumers will seek to maximise shopping utility by patronising their nearest retail centre (Ingene 1984). However, research empirically shows that consumers will not always visit their closest facility (Golledge, Rushton & Clark 1966; Clark 1968; Clark & Rushton 1970). A key flaw of CPT is the assumption that consumers make single purpose shopping trips (Clark 1968; Day 1973; Potter 1982; Ghosh 1986). Under this assumption, consumers patronise their nearest centre to reduce the cost of shopping for a single good. However in reality, consumers seek to minimise the cost of an entire shopping trip. They may therefore by-pass their nearest centre for a more distant centre if it offers the opportunity to engage in multi-purpose shopping (Berry & Garrison 1967).

CPT is also criticised for its lack of relevance to contemporary shopping behaviour. Bouchard (1973) proposed that as the car had eliminated the friction of distance in travelling to retail centres, retail facilities are not constrained in their location by the requirement that they be close to consumers homes. The transition from a population reliant on public transport to one that is independently mobile (Rees 1987) means that out-of-town locations are often favoured by car-borne consumers because of their easier access and parking (Sparks 1983; Schiller 1988). A further flaw stems from the fact that due to continuing improvements in transport infrastructure, distance must be measured in temporal as well as spatial terms (Kelley 1958). Subsequently, with consumers using travel-time, rather than distance, as the primary determinant of spatial behaviour (Brunner & Mason 1968), proximity may have been relegated to a less-than-salient attribute. Some academics even

went so far as to treat proximity and convenience as two separate attributes (e.g. Howell & Rogers 1980).

In its efforts to explain consumer behaviour in rational terms, CPT is criticised for the fact that shoppers will often exhibit less-than-rational behaviour by bypassing their nearest centre (Potter 1982). However, such criticism may be premature. Rather than dismiss CPT, some academics propose that consumers possess a degree of spatial indifference. In this case, insignificant differences in distance can taint rational behaviour. Although in reality the chosen retail centre may not be the nearest, it is perceived as such and patronised accordingly. Hence the consumer is still exhibiting a form of spatially rational behaviour (Hubbard 1978).

For reasons such as this, the principle of least effort is still regarded as a determinant influence over shopping behaviour. According to this principle, consumers endeavour to maximise utility by favouring some policy of movement minimisation (Ambrose 1968; Hubbard 1978). Recognising this, retailers have traditionally sought to provide place utility by ensuring consumers can shop in convenient locations (Assael et al 1995). The link between proximity and convenience is straightforward. All things being equal, the closer a retail centre is to the consumer, the less time and effort required to reach it. Such is the relationship between proximity and convenience the two terms have even been used interchangeably (e.g. Potter 1980).

Despite its theoretical influence, there is a relative dearth of current empirical research available on the importance of proximity. Almost half a century ago Nelson (1958) noted that all things being equal, shoppers would not bypass their nearest centre to patronise another with equal facilities. While consumers will travel beyond their local retail centre if dissatisfied with local merchandise offerings (Hawes & Lumpkin 1984; Lumpkin, Dawson & Darden 1986), trading hours and parking (Samli & Uhr 1974; McCarthy 1980), studies have consistently revealed that proximity serves as a major influence over retail centre choice (Jonassen 1955; Bucklin 1962; Huff 1963; Lentnek, Lieber & Sheskin 1975; Koppelman & Hauser 1979; Patricios 1979; Potter 1982). Rothenburg (1986) sought to explain the importance of proximity by noting that 90% of consumers are loyal to a specific retail centre, and that proximity serves as a key determinant of loyalty. Others summarised its relative influence by concluding that consumers reach a spatial compromise by patronising the nearest retail centre offering the desired type, quality and combination of goods demanded at any particular instance (Mottershaw 1969; Fingleton 1975; Warnes & Daniel 1979). In the context of the geographic sampling frame for this study, the potential importance of proximity is emphasised by the fact that 14.8% of all shopping trips in Melbourne occur on foot, making it the second most important access mode behind only the car (McLennan 2000).

While some studies have revealed it to be a less-than-salient attribute, others suggest that the diminishing market share of America's regional shopping centre can be attributed, at least in part, to consumers desire for proximity (Chain Store Age 1985). On the balance of findings, it appears that many consumers are prepared to incur the added cost of travelling to a more distant retail centre if this inconvenience can be balanced against other cost savings such as one-stop shopping, longer trading hours and better parking opportunities. However, consumers can still be expected to seek spatial convenience by patronising a retail centre located within close proximity. As such, there is a general consensus that proximity serves as a key attribute of convenience. What has yet to be confirmed is just how important proximity is to the contemporary consumer, particularly in comparison to other convenience attributes.

3.4.3 Access

Access refers to the convenience of travelling by car to, from and within a retail centre. The principle of accessibility states that the more easily potential consumers can approach, enter, traverse and exit a site, the more likely is patronage (Lewison 1997). Because travel decisions relating to the shopping trip include choice of route (Richards & Ben-Akiva 1974), access serves as an important influence over patronage. Improved access has meant that many centres can no longer expect to draw customers simply on the basis of proximity. Given that humans are more aware of time-distance than spatial-distance (Spence 1971), driving time, rather than distance, serves as the more important influence over consumers retail centre preferences (Brunner & Mason 1968). This is because the effort required to reach a centre is not necessarily linked to the distance involved (Huff 1964; Brunner & Mason 1968; Stanley & Sewall 1976). Because such effort influences shoppers attitudes (Huff 1966), strategies aimed at increasing the overall safety or convenience of a trip will have a major impact upon shopping behaviour (McCarthy 1980). It is therefore not surprising that research has consistently confirmed that access factors serve as salient determinants of retail centre patronage (Patricios 1979; Timmermans 1980; Potter 1982; Wee 1986; Ghosh 1994).

Reducing the cost of car-borne travel must represent a critical focus for retail centres. Such is its importance to shopping that the car was dubbed 'a shopping basket on wheels' (Jones 1969). The importance of the car to shopping is emphasised by research showing that;

- Up to one fifth of all car-borne journeys are shopping trips (Recker & Stevens 1976);
- Car-borne shoppers travel further and visit more centres than those without cars (Guy 1990);
- Car-borne shoppers possess larger spatial information fields (Potter 1979A).

While the importance of access has been established in numerous studies, its relationship to convenience has not. A key reason for this is the way in which access has been conceptualised and operationalised. Rather then serving as an attribute in its own right, the term access is used to summarise a range of attributes. Potential traffic barriers such as single lane roads, restrictive speed limits and an excessive number of traffic lights can increase the temporal and/or effort costs of patronising a retail centre. Access must therefore be broken down into each of these separate components. The failure to do this has meant that despite its influence over the cost of shopping (Downs 1961), access (Wee 1986) and access outcomes such as traffic hindrance (Timmermans 1980) have rarely been linked to convenience. Again this oversight is significant because traffic hindrance serves as a salient attribute (Timmermans 1980; Wee 1986).

3.4.4 Low prices

Convenience has been defined as consisting of temporal costs *and* economic costs such as lower prices (e.g. Bellenger & Korgaonkar 1980; Roy 1994). Western society does often equate time with money, in that time can also be spent, saved and wasted (Graham 1981). However, logic suggests that *low prices* be rejected for the same reasons raised against treating economic costs as a valid measure of convenience. Economic and convenience motives represent conflicting terms because consumers are often prepared to pay more in order to attain convenience (Stephenson & Willett 1969; Williams et al 1978; Forsythe & Bailey 1996), or to incur the inconvenience of greater search costs in order to save money (Bellizzi & Hite 1986). As a practical example of this, consumers will often pay premium prices at

convenience stores in exchange for their convenient location and longer trading hours. In spite of this, in the absence of empirical research, low prices cannot automatically be dismissed as an attribute of retail centre convenience.

3.4.5 Parking

Parking opportunities impact upon the attractiveness of a retail centre (Cox & Cooke 1970) and therefore patronage (Gentry & Burns 1978; Patricios 1979; McCarthy 1980; Timmermans 1980; Potter 1982; Wee 1986). Consumer evaluations of a retail centre decline as the time taken to find a parking space increases (Timmermans 1982). Parking has been found to influence the productivity of a retail centre (LeHew & Fairhurst 2000), the success of new shopping schemes (Bennison & Davies 1980), the degree of out-shopping (Thompson 1971), and retailers' location decisions (Smith, Garbarino & Martini 1992). Parking problems have also been found to serve as one of the greatest influences over changes in shopping behaviour (Stoltman, Morgan & Anglin 1999).

Parking serves as an important determinant of retail centre convenience (Downs 1961). Increasing the number of parking sites can reduce the time and distance required to locate a parking bay, while the type of parking available (e.g. curb-side, parking lot, parallel, diagonal etc) can influence the effort involved in the actual act of parking. Parking therefore influences the temporal, spatial and effort costs of patronising a retail centre. Again, this factor has often been overlooked. Rather than identifying parking as an attribute of convenience, studies have linked it instead to *shopping efficiency* (Boedeker 1995), or the *accessibility* (Timmermans, Van Der Heidjen & Westerveld 1982), *quality* (Bellenger et al 1977), *facilities* (Wong et al 2001) or *design* (Gautschi 1981) of a centre and its *facilitative nature* (Houston & Nevin 1980; Nevin & Houston 1980; Wee 1986). This has again lead to the contentious outcome that a cost-influencing attribute has been identified as important (Gentry & Burns 1978; McCarthy 1980; Timmermans 1980; Timmermans et al 1982), but not been linked to convenience. As with access, such findings could be due to the way in which parking has been operationalised. There are several sub-attributes of parking, all of which have the potential to impact upon convenience, namely parking availability, parking proximity and the type of parking provided. Any measure of parking convenience must therefore be broken down into these separate components.

3.4.6 Ease-of-way finding

The measure ease-of-way finding (Bell 1999), or convenience-in-centre as it has also been called (Howell & Rogers 1980), could refer to several attributes. For example, attributes such as the extent to which stores are located in compatible clusters, the degree to which store and non-store functions are segregated, and the availability of shopping services such as information desks or shopping directories would all influence ease-of-way finding. This attribute must therefore be broken down into these separate components.

3.4.7 Number of other services

This attribute relates to the convenience of multi-purpose travel. When retail and non-retail functions are located together it allows a retail centre to function as a one-stop commercial destination. By increasing the size of the centre however, non-retail functions can also create an inconvenient shopping environment. Beyond a given size, mass inhibits patronage (Bucklin 1967) by compromising other attributes such as access, parking (Thompson 1967), store compatibility, and the compact design of the centre. Subsequently, shopping centres deliberately minimise the number of

service firms in order to offer shopping convenience (Eppli & Benjamin 1994). By merely focusing on quantity, this attribute, as a measure of convenience, serves as a contradiction in terms.

3.4.8 Public transport

Public transport offers convenience by transferring the effort involved in reaching a retail centre from the consumer to the carrier. In spite of this, very few academic studies have included public transport as a convenience attribute (table 3.1). Again, this has created the contentious outcome whereby a salient (Potter 1979B; Ibrahim 2002) cost-minimising attribute (Oppewal et al 1994) has not been linked to convenience.

To this point, an analysis of patronage studies has revealed that academic definitions of convenience contain some attributes that fail to adequately address the costs of shopping and/or are somewhat ambiguous. Just as disconcerting is the fact that other patronage studies have failed to recognise even this limited set of measures as convenience attributes. Subsequently, many of these studies have dismissed convenience as a salient determinant of patronage behaviour, despite inadvertently acknowledging the influence that cost-minimising attributes such as trading hours, parking and access have over consumers shopping behaviour.

3.5 OTHER POTENTIAL CONVENIENCE ATTRIBUTES

The confusion surrounding existing definitions extends much further however. To complete the confusion emanating from studies of convenience, several other cost-influencing attributes have been ignored entirely in academic definitions of convenience. Attributes such as one-stop shopping, enclosure, pedestrian areas and shopping services may not only serve as key determinants of shopping behaviour, they also influence the convenience of retail centre patronage.

3.5.1 One-stop shopping

The term one-stop shopping implies that all but the most esoteric of shopping needs can be satisfied in the one centre, all at the one time (Kaufman 1996). Allowing the consumer to complete all their shopping in the one place represents the best way to reduce the fixed costs of shopping (Downs 1961). By improving the tenant-mix of a retail centre it reduces spatial costs by eliminating the need to visit multiple retail centres (Ambrose 1968). As such, adding depth and variety to the tenant-mix reduces the time and effort required for individual transactions (Bucklin 1967).

The appeal of one-stop shopping stems from the fact that the marginal purchase cost of adding another item to a list of purchases is little more than its financial cost (Jacoby et al 1976). Hence consumers will prefer to satisfy several needs in the one place, provided the economic cost of doing so is not significant (Yale & Venkatesh 1986). As such, one-stop shopping represents a key consumer strategy for minimising spatial (Gehrt & Yale 1993) and temporal costs (Liebeck 1996; Messinger & Narasimhan 1997). Its importance is emphasised by research showing that consumers are combining several shopping tasks in response to increasing time scarcity (Kaufman, Lane & Lindquist 1991; Herrington & Capella 1995), and that consumers tend to show strong preference for retail centres that offer one-stop shopping (Williams 1979; Kaufman 1996). Subsequently, consumers will often by-pass their nearest centre for the opportunity to undertake one-stop shopping (Golledge et al 1966).

Further support for the importance of one-stop shopping can be found in research relating to the frequency with which consumers engage in multi-purpose shopping. Multi-purpose shopping refers to the act of purchasing both higher and lower-order goods in a single trip (O'Kelly 1981). Just as with one-stop shopping, consumers undertake multi-purpose shopping to decrease the total effort required to obtain desired goods and services (Hanson 1980; Mulligan 1984; Ingene 1984; Eppli & Benjamin 1994). Because multi-purpose shopping trips constitute the majority of shopping trips (O'Kelly 1981), the opportunity for multi-purpose shopping exerts significant influence over consumer behaviour (Ingene & Ghosh 1990). By creating a tenant-mix that provides for one-stop shopping it enhances the convenience of multi-purpose shopping.

Although the term one-stop shopping did not appear in retail literature until 1956 (Smith), it had previously been alluded to by Mertes (1953) as a key strength of the shopping centre and by Stone (1954) as an example of effort minimising behaviour. Despite the existence of such research, it was not until recently that one-stop shopping was recognised as an attribute of retail centre convenience (Kaufman 1996). Symptomatic of academic confusion towards convenience is the fact that tenant-mix attributes (which determine the ability of a retail centre to offer one-stop shopping) have consistently been recognised as salient determinants of patronage, but have never been linked to convenience (Gentry & Burns 1978; Houston & Nevin 1980; McCarthy 1980; Timmermans 1980; Gautschi 1981; Timmermans 1982; Bell 1999). Even more contentious is the conclusion that while the tenant-mix is a salient attribute, convenience is not (Gentry & Burns 1978; Timmermans 1980; Timmermans 1982; Bell 1999). When one-stop shopping has been utilised, it has been linked to *assortment* (Wee 1986) and *shopping efficiency* instead (Boedeker 1995).

3.5.2 Enclosure

It has been suggested that climate influences consumer behaviour at least as much as age, income or other demographic characteristics (Schwartz 1992). One view holds that in order to ensure the comfort necessary to attract consumers, shopping centres must provide climate control via enclosure (Muto 1994). As excursions to shopping strips are often shortened or cancelled during inclement weather (Houstoun 1990B; Stoltman et al 1999), enclosure is regarded as a prerequisite for success in markets subject to climatic extremes (Jones 1969). The importance of this is reinforced by the fact that shoppers spend as much as 20% of their shopping time outside of stores (Brown 1992). In a study of fourteen factors influencing patronage, Potter (1979B; 1982) found that enclosure was the seventh most important attribute ahead of parking, travel time, aesthetic appeal, travel cost, advertising and social qualities. The most obvious benefit offered by an enclosed centre is the protection it offers from the elements; an important criterion in retail centre selection (Wee 1986).

Enclosure also offers several other significant advantages. These include;

- It provides a more modern appearance;
- It creates an inward-looking environment that complicates consumers ability to perceive competing attractions;
- It can limit shoppers to using the enclosed centre via the strategic siting of entry and exit points, thereby minimising spill-over into any surrounding shopping strip;
- It can aid the formation of circulation routes between stores;
- It can encourage impulse buying;

- It offers protection from the noise and traffic which characterise the shopping strip;
- It provides protection from petrol fumes and other city odours;
- It provides a more controllable and therefore secure environment;
- It allowed planners to transform the mall itself into a major attraction in its own right, containing stages, food courts and amusements; and
- It helped transform the image of the shopping centre from that of a conglomeration of individual retailers into a single packaged entity (Northern & Haskell 1977; Bennison & Davies 1980; Beddington 1982; Martin 1982; Maitland 1985; Lorch & Smith 1993; Bloch et al 1994).

In combination, many believe these factors provide the shopping centre with a social atmosphere (Beddington 1982) that encourages browsing (Jarboe & McDaniel 1987). Enclosure was regarded as a pre-requisite to attracting and maintaining key retailers (Carpenter 1978), and countering competition (Alexander & Muhlebach 1992). Enclosed centres were perceived as possessing greater drawing power than open-air centres, and generating longer visits and greater consumer spending (Applebaum & Kaylin 1974). Due to their ability to exert a positive influence over consumer perceptions (Oppewal & Timmermans 1999), enclosed schemes were often more successful than their open-air counterparts (Koltz 1973; Kober 1977; Northern & Haskell 1977; Bennison & Davies 1980; Kirkup & Rafiq 1994). As a result, almost all shopping centres built between 1960 and 1980 in the U.S.A were enclosed (Muller 1981). Similarly, enclosure became a common means for revitalising existing retail centres (Lord 1985A).

Enclosure provides the potential for convenience by reducing the effort involved in shopping in inclement weather. However, the dynamic nature of convenience (Berry & Cooper 1990; Seiders et al 2000) means that enclosure may not be considered convenient by the consumer of today. The fact that most enclosed centres have inward-facing stores may serve as an inconvenience because it increases the distance consumers must walk between store entrances and the parking lot. A key strength of the shopping strip and strip shopping centre is that consumers can drive straight to individual stores (Levy & Weitz 1998). Recognising this, hundreds of troubled American shopping centres have provided stores with external entrances to offer the dual convenience of curb side parking and enclosure (Gentry 1999). Others have simply been de-roofed as a general means of rejuvenation (Chain Store Age Executive 1997; Berman & Evans 1998).

Just as enclosure provides a potential form of convenience so too does store visibility. Based on the notion that a minimum of 200 metres of unobscured visibility was necessary to entice car-borne shoppers into a store (Ratcliff 1949), many retailers resisted enclosure from the outset (Carpenter 1978). In the typical enclosed shopping centre, stores are invisible to passing motorists. Whereas it was once a design principle that parking visibility from access routes was more important than store visibility (Jones 1969), the emerging need to expose their tenants and encourage impulse shopping has provided some shopping centres with yet another reason for turning themselves 'inside-out'.

As a result, there is an alternative view that rather than automatically enclosing new centres, the decision should be climate-based (Kober 1977). Because consumers perceive entertainment value in being outside in fine weather (Pacelle 1996), de-roofing can create a town-centre atmosphere where people can socialise (Doubilet 1999). Even cities that are prone to extreme weather are de-roofing, because indoor malls are often perceived as 'stale and homogenous' (Caarns 1999). Some shopping centres even sought to improve their aesthetic appeal by using the same

streetlights and pavements commonly found in the open-air of shopping strips (Miller 1978). In the U.S.A, the contemporary design is to have an open-air centre with both pedestrian and vehicle access (Building Design & Construction 2001). In pursuit of the best of both worlds, some shopping centres even installed retractable roofs (Jones 1989). Others opted for a hybrid design of another kind - part enclosed, part open-air – but typical of the confused impact of enclosure, these have been less than successful, with many shoppers reluctant to visit the outdoor portions (Mander 2001).

The debate over the convenience of enclosure is finely balanced. Consumers will not automatically choose the convenience of climate control, because with conveniences there are inconveniences, in this case, the loss of parking proximity and store visibility. As a possible consequence of this unresolved debate, studies have linked enclosure to *quality and satisfaction* (Koppelman & Hauser 1979), *variety under one roof* (Bellenger et al 1977), the *physical layout* of the centre (Timmermans et al 1982) and its *appearance, layout and furnishings* (Oppewal et al 1994), rather than convenience. The importance of enclosure is equally unclear. It has been suggested that it could be entirely irrelevant because many consumers will not shop during inclement weather. Research shows that even in enclosed shopping centres, shopping traffic declines as either rainfall or maximum temperatures increase (Parsons 2001).

3.5.3 The provision of pedestrian areas

Pedestrian malls are streets closed to automotive traffic where pedestrians can walk and shop freely (Steinhauer 1996). According to Gillette (1985), one of the most revolutionary and successful strategies utilised by the shopping centre was the use of pedestrian malls. The realisation that it no longer served as a thoroughfare but a destination in its own right is recognised as a key stage in the evolution of the shopping centre. By distancing itself from the vehicular traffic of the shopping strip, it was free to focus upon creating the most effective retail environment necessary to satisfy consumers shopping needs (Maitland 1990). The early attitude of shopping centre planners towards the car is ably demonstrated in the words of Gruen and Smith (1960, p 75, 147);

> ".... automobiles do not buy merchandise .... If anyone today were to propose the introduction of automobile traffic in the malls and courts of shopping centers, businessmen would regard them as insane. They have recognised that the exclusion of automobile traffic means good business."

Since walking is also the primary mode of movement for its patrons, the shopping strip too must find means to encourage pedestrian activity. Research has shown that the commercial viability of the shopping strip is highly influenced by pedestrian movement (Borgers & Timmermans 1986). As with the shopping centre, the physical separation of pedestrian and car has also become an accepted planning concept for the shopping strip, where the two traffic types must operate simultaneously (Morris & Zisman 1962; Churchman & Tzamir 1981).

However the objectives of mall-creation go beyond merely offering a safe haven for pedestrians. The primary objective of the pedestrian mall is to rejuvenate and revitalise the shopping strip (Hillier 1970; Onibokun 1975) by helping it compete against shopping centres (Hajdu 1988). In fact, up until just two decades ago, efforts to preserve European shopping strips had been limited primarily to the use of pedestrian malls. By 1986, in Germany alone, there were an estimated 800 such malls with almost every German town with a population over 50000 boasting one (Monheim 1986; Hajdu 1988). In order to help preserve the shopping strip, planners hoped the mall would satisfy a myriad of objectives including;

- Creating a stable environment for retailers;
- Creating a new image for the shopping strip and a source of community pride;
- Providing a centre for exhibits, concerts, parades and other events;
- Offering an improved physical and visual environment by providing shade, seating and walking areas;
- Alleviating a declining quality of urban life caused by congestion, air and noise pollution, and the flight of the middle class to the suburbs;
- Enhancing safety;
- Promoting urban conservation;
- Increasing property values; and
- Transferring priority to bicycles and public transport (Brambilla & Longo 1977; Rubenstein 1978).

There is still some doubt however as to whether it was successful in achieving its goals. Research undertaken soon after mall construction reached its peak in the 1970's indicated that the mall had been a success. A study of German shopping strips found that streets converted to pedestrian malls experienced significantly higher pedestrian flows (an average increase of 49.1%) and increased retail sales. Moreover, retailers located in malls overwhelmingly favoured such street conversions (Hajdu 1988). Similarly, a study of American pedestrian schemes found that 37% of cities reported a 10-30% increase in sales while just 15% reported little or no impact (Onibokun 1975). Similar findings led others to conclude that pedestrian malls offer several advantages including the potential to increase sales (Uhlig 1979; Rotoff 1981), investment and land values (Brambilla & Longo 1977) and affluent shopping traffic (Gross 1978), while also reducing vacancy levels (Brambilla & Longo 1977; Uhlig 1979). Pedestrian areas can also create a safer, more pleasant environment that satisfies consumers social needs and encourages greater window-shopping (Uhlig 1979; Churchman & Tzamir 1981). Given that the character of a street is determined by the ease of pedestrian movement (Davies & Bennison 1978), they can also have a positive impact on consumer perceptions. As such, pedestrian malls can serve as a salient determinant of patronage (Downs 1970; Potter 1982).

Subsequent research however began to identify problems with the pedestrian mall (Gross 1978; Leibowits 1981; Shaw 1985; Lagerfeld 1995). In many American cities, research revealed that sales declined once malls were introduced and increased once they were removed (Houstoun 1990A), thereby serving to create negative perceptions amongst retailers (Churchman & Tzamir 1981). As a result, just as malls were once regarded as the best means for reviving the shopping strip, removing them soon became just as popular (Thorne 2001). In 1996, approximately half of the two-hundred pedestrian malls across the U.S.A were under some form of transformation (Steinhauer 1996).

While the importance of pedestrian malls is still a matter of contention, some argue that the removal of malls may be premature. Houstoun (1990A) proposed that the shopping strip faltered not because pedestrians could not walk in the street, but because affluent consumers found shopping centres more convenient. Others reasoned that the decline of some shopping strips occurred not because of the mall, but because it was introduced too late. In the words of Brambilla and Longo (1977, p 9), "if stores and people have already deserted the downtown, adding cars to the list is unlikely to turn the tide".

Rather than blame the mall per se, much of the criticism is directed at the planning behind it. Rotoff (1981) for example, questioned whether the European model was

suitable for American shopping strips. He argued that preconditions for mall success include the size and locus of the city population and its culture. In Europe, malls are well suited because of the high-density residential populations concentrated around the mall and residents propensity for late afternoon and evening strolls. In contrast, American markets are often characterised by a car-oriented, suburban population that is most active at home and during the day. Houstoun (1990A) provided supporting evidence of the need for a concentration of consumers around the mall. In America, office workers spend on average $1080 a year in shopping strips during their lunchbreak. While they are therefore imperative to the success of a mall, most will walk no further than three blocks. As such, the viability of malls is seriously threatened when there are no substantial concentrations of office workers within walking distance.

As with the debate over the evolution of retailing, there is an opposing view that holds that rather than resting on population and planning, success depends on the extent to which a mall provides a convenient shopping environment. While the mall may prove convenient for the pedestrian, it conflicts with several other convenience attributes, namely parking, public transport, access and spatial convenience.

- Parking: The invent of the car created a generation of shoppers accustomed to being able to park in close proximity to almost any store in the shopping strip. This served as a key means for differentiating the shopping strip from the shopping centre. It is somewhat ironic given the problem pedestrian malls have created for many shopping centres today, that shopping strips would look to introduce the mall as a means of rejuvenation. As a result, strip shoppers are also forced to park at distance from their desired stores. And by forcing a generation of car-borne shoppers to shop on foot, it limits the amount of merchandise they can carry thereby hampering multi-purpose shopping (Thorne 2001). By preventing shoppers from driving straight to stores, it hampers those wishing to make quick or bulk purchases. Moreover, in order to create a pedestrian-oriented environment, planners deliberately attempt to reduce car traffic (Brambilla & Longo 1977). Such action involves reducing the number of parking spaces available, increasing their cost, and limiting the time shoppers are allowed to park;
- Public transport: For malls to succeed motorists must be persuaded to utilise alternative forms of transport. Otherwise the restricted access caused by the mall will simply result in increased traffic congestion. Unfortunately, American consumers have typically been reluctant to abandon the car in favour of public transport and so pedestrian malls have often simply created further inconvenience in the form of limited access (Gross 1978; Rotoff 1981);
- Access: An important pre-requisite for mall success is ensuring that access remains convenient (Scott 1970). The most successful diversions run parallel to the mall, are within close proximity (no more than one block away), and maintain mall visibility through side streets (Rotoff 1981). When these principles are not adhered to it can render stores invisible to car-borne shoppers (Onibokun 1975; Churchman & Tzamir 1981);
- Spatial convenience: The principle of least effort applies even in the spatial confines of a pedestrian mall. Public transport must therefore often be provided to ensure that shoppers walk its length (Uhlig 1979). In Germany for example, larger towns have continued to increase the size of their malls so that some now have networks of more than 5000 metres (Monheim 1986). This would suggest that in the absence of public

transport the size of a mall may prove too inconvenient for the shopper on foot.

For the same reasons as enclosure, debate still rages as to the convenience and importance of the pedestrian mall. On the one hand, it helps minimise stress by providing a safe shopping environment for pedestrians. On the other hand, it increases temporal and effort costs of shopping for a generation of consumers accustomed to shopping by car. According to this view, pedestrian malls have essentially failed because they were designed to meet aesthetic needs rather than the needs of time-pressed, car-borne shoppers (Steinhauer 1996). The answer to such a debate is an important one because while opposition to the mall theoretically originates from retailers, taxpayers and traffic lobbyists (Brambilla & Longo 1977; Monheim 1986), it may ultimately prove to be the consumer who decides its fate.

3.5.4 Shopping services and amenities

Shopping services are provided to make the shopping experience more convenient for the customer (Risch 1987; Levy & Weitz 1998). Ever since self-service was first introduced to retailing, customer service has been in decline (Ingene 1984; Abend 1990). However, the 1990's witnessed their re-emergence (Chain Store Age Executive 1994), being dubbed the 'customer decade' (Gilman 1994). According to Lewison (1997), if the 1990's were the decade of the customer, then customer service was the strategy of the decade. Empirical research does testify to the importance of shopping services and amenities. Service quality (Downs 1970) and the provision of amenities (Potter 1979B; 1982) rank amongst the most salient determinants of patronage.

Services such as child minding, coat checking, diaper changing stations and information desks are designed primarily to reduce the effort involved in shopping. They can also exert an indirect influence over its other costs as well. For example, a child minding service, by freeing parents from the distraction of supervising children, can reduce the temporal cost of shopping. A limited number of studies have recognised the importance of a small selection of services such as food service and comfort areas, but linked them to the *facilitative nature* of the centre (Houston & Nevin 1980), its *appearance, layout and furnishings* (Oppewal et al 1994) and the search for *experience and recreation* (Boedeker 1995) instead. Others have utilised a greater selection, but then linked amenities such as escalators, elevators and seating to *facilities* (Wong et al 2001), store directories to *maintenance* (Wee 1986), and eating facilities and food courts to *assortment* and *sales incentives* (Wee 1986; Wong et al 2001) rather than convenience.

3.6 INTRA-CENTRE SPATIAL CONVENIENCE

Studies examining pedestrian movement in shopping environments report the existence of a distance decay effect (Lorch & Smith 1993): an overall reluctance on the part of the consumer to walk excessive distances. Studies have found that even in community-level shopping centres, shoppers are reluctant to exert themselves. Such is their limited movement that one study found that only 11% of consumers circulated throughout an entire shopping centre (Brown 1991; 1992). Shopping centre patrons will often prefer one store to another on the basis that it is located closer to an entrance (Crask 1979). In fact some have gone so far as to return to their car and park anew rather than walk long distances between stores (Longstreth 1998). As such, the *principle of least effort* is also regarded as applying to intra-centre travel (Johnston & Kissling 1971; Crask 1979).

Several other facts, findings and design principles provide further insight into the extent and nature of consumer lethargy. For example;

- Scholars noted several decades ago that the American consumer was shopping less and less on foot (Nelson 1958). In an era when only one in ten consumers owned a car, shoppers were already showing a propensity to avoid walking when confronted with lengthy shopping strips (Gruen & Smith 1960);
- Even as early as 1924, surveys were reporting that 80% of shoppers were already resistant to the prospect of walking two blocks to a store from their car (Longstreth 1998);
- In a study of twenty-three factors influencing patronage, Jonassen (1955) found that the physical effort and walking required to shop at a centre ranked 3rd and 5th respectively in importance;
- Based on consumer shopping habits, experts proposed that the length of a centre should not exceed 200m, and that the maximum distance between parking bays and stores should not exceed 100 metres (Jones 1969; Beddington 1982; Hasty 1983);
- Such is the importance of a compact design, that malls with a width exceeding ten to fifteen metres are regarded as too wide (Applebaum & Kaylin 1974; Maitland 1985; Alexander & Muhlebach 1992);
- A health study found that almost 50% of all Australians fail to walk far enough each day to maintain minimum levels of health (Taylor 2001).

As the car has eliminated the friction of distance in travelling to retail centres, consumers experience the primary effects of the friction of distance as pedestrians within retail centres (Bouchard 1973). One of the key services retailers provide consumers is place utility; ensuring consumers can buy products in convenient locations (Assael et al 1995). Minimising the walking distance between stores represents a key component of the spatial dimension of convenience (Gehrt et al 1996). The ability to move from store to store with ease and minimising out-of-vehicle walk time both serve as significant inputs into a retail centre's attraction (McCarthy 1980). As such, the compactness of a retail centre serves as an important influence of consumers perceptions towards it (Potter 1979B; 1982; Houston & Nevin 1980; Nevin & Houston 1980; Gautschi 1981; Wee 1986; Oppewal et al 1994; Oppewal & Timmermans 1999).

3.6.1 Size

There are several ways to minimise the distance a pedestrian must travel. The first option involves limiting the physical size of the centre. However, with many shopping decisions made under conditions of uncertainty, consumer perceptions as to the probability of a successful shopping venture are often based on centre size (Huff 1963). As a result, the size of a retail centre is often used as a proxy for representing the range of opportunities it offers (Koppelman & Hauser 1979) and ultimately, its utility (Huff 1964). Larger centres offer the potential for shopping convenience by providing the necessary breadth and depth for one-stop shopping. Mass provides utility by decreasing the time and effort required for individual transactions (Cox 1959). Consumers will ignore the additional costs of travelling further to larger centres, if these can be balanced against savings in time and energy (Huff 1966; Thompson 1971).

As with many of the other attributes, it has yet to be determined whether size is a boon or a barrier to convenience. In evaluating the impact of size on convenience, it is necessary to distinguish between size and tenant-mix. Although the number of tenants largely determines the size of a retail centre, these attributes are not one

and the same. The number of tenants is only one factor: its design and the spatial juxta-positioning of its tenants also determine the size of a retail centre. It is therefore possible that two retail centres can occupy the same area despite having a vastly different number of stores, if one has its stores spatially dispersed in a linear design, while the other has its clustered together in a compact design. In this case, consumers are more likely to use the actual number of stores (Timmermans et al 1982), rather than size to differentiate between the two retail centres.

In situations where consumers can perceive substantial differences between retail centres, size has been shown to be a poor measure of attraction (Nevin & Houston 1980). Potter (1982) proposed that size had been over-emphasised because centres of equal size can differ against any number of other attributes, and that consumers will generally favour quality over quantity. Retail centre attractiveness has therefore been equated to the relative number of liked stores rather than the overall number of stores (Meoli, Feinberg & Westgate 1991).

Most retail centres will typically possess a few dominant anchor stores that will be primarily responsible for attracting the majority of patrons. It is these stores, rather than the size of the centre that determines whether it will be patronised (Franckowiak 1978). For these reasons, significantly smaller shopping centres can often outdraw their larger shopping strip counterparts (Johnston & Rimmer 1969). Size serves as a less than ideal means for measuring utility because the consumer is only interested in that portion of the retail centre that carries the desired product at that time. In accordance with the principle of least effort, consumer movement in large retail centres can be expected to be limited to those smaller portions of the retail centre where the consumer can satisfy their purchase needs (Crask 1979).

Logic suggests that the larger a retail centre, the more likely it will provide the convenience of one-stop shopping. However mass can also act as a hindrance to convenience, with traffic congestion, access barriers, parking difficulties (Huff 1961; Thompson 1967) and walking distances between desired stores all likely to increase with size. Furthermore, the utility derived from mass depends upon consumers search problem. Only in situations of 'full search' is mass likely to aid convenience (Bucklin 1967). Further research is therefore necessary to determine how consumers perceive size in relation to convenience, and the influence it has over their patronage behaviour.

3.6.2 Design

The physical design of the retail centre offers a means for balancing the seemingly contradictory objectives of offering both one-stop shopping *and* a compact retail environment. All things being equal, a shopper will have to walk further in a retail centre with a strung out linear design, than one organised into a compact cluster. The design of a retail centre therefore influences the spatial, temporal and effort costs of patronage. While studies have measured the importance of design (Oppewal et al 1994; Houston & Nevin 1980), and found it to be a salient determinant (Downs 1970; Potter 1979B; Gautschi 1981; Potter 1982), its influence has been linked to the *maintenance* (Koppelman & Hauser 1979), *facilities* (Wong et al 2001) and *facilitative nature* of a retail centre (Houston & Nevin 1980; Nevin & Houston 1980) and its *appearance, layout and furnishings* (Oppewal et al 1994) rather than convenience.

3.6.3 Compatibility

Compatibility refers to the degree to which two or more businesses interchange customers. Such is the link between the importance and convenience of compatibility that it is not possible to discuss one without discussing the other. Compatibility is potentially important to consumers because it makes shopping more convenient. As a consumer's patronage behaviour is influenced by store location relative to their present position, the further a store is from other stores visited by the consumer, the less likely is patronage (Crask 1979). When compatible stores are located together it minimises the distance the shopper must travel to procure goods typically purchased in the same trip. It also makes travelling between stores to compare merchandise and prices more convenient. In reducing the spatial cost of intra-centre travel, it also reduces the time and effort involved in shopping.

When consumers are uncertain in their purchase decisions they are more likely to seek information about price, quality and variety. This is especially true for higher-order goods where the perceived purchase risk is high. In this situation, shoppers are more inclined to invest the effort to carefully gather and analyse the information necessary to minimise the occurrence of dissonance. Research confirms this, showing that consumers do in fact compare price and quality in a number of stores before purchase (Brown 1987). The clustering of compatible stores facilitates the consumer decision making process, particularly the information search and brand evaluation stages. Imperfectly informed consumers are attracted to compatible clusters as they represent the optimum location for information search (Wolinsky 1983). Clustering reduces the travel and search costs of imperfectly informed consumers, allowing them to make quick comparisons without the need to search throughout the entire centre (Brown 1987). Moreover, compatibility is also important to the time-pressed consumer (LeHew & Cushman 1998).

Although convenience is regarded as the driving force behind compatibility (Brown 1994; Eppli & Benjamin 1994) and has long been recognised as reducing the cost of shopping (Downs 1961; Thompson 1967; Hartnett 1995B), it has never been utilised as an attribute of convenience. Although some studies may have alluded to it as *internal organisation* (Timmermans et al 1982), the *distance between stores* (Timmermans et al 1982), *convenience-in-centre* (Howell & Rogers 1980) and *store-to-store access* (Gautschi 1981; McCarthy 1980), most have failed to link it to convenience. Instead, it has been linked to attributes such as *accessibility* (Timmermans et al 1982) or *design* (Gautschi 1981).

3.6.4 Concentration

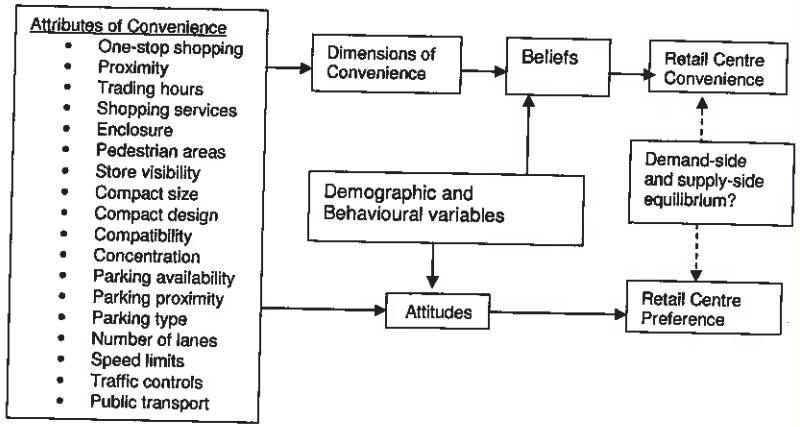
Although store compatibility provides spatial convenience by facilitating single-purpose, comparison-shopping, it only minimises distance for a limited set of purchases. In order to satisfy Cox's (1959) notion of aggregate convenience, spatial convenience must apply to the shopping trip in its entirety. Retail concentration offers a more encompassing approach to spatial convenience. It involves segregating retail and non-retail firms, to create a dedicated, compact retail environment. In doing so, retailers provide spatial convenience through their relative proximity to other retailers. Proximity is enhanced when retailers are concentrated in the centre's core. The greater the proportion of stores in the retail core, the greater its concentration. Conversely, a retail centre interspersed with numerous non-retail functions in its core adds to the spatial, temporal and effort costs of shopping. As with compatibility, studies may have indirectly referred to concentration (Koppelman & Hauser 1979; Potter 1979B; Howell & Rogers 1980; McCarthy 1980; Timmermans 1980; Timmermans et al 1982; Wee 1986), and found it to be an important attribute (McCarthy 1980), but have never linked it to convenience.

The problem stemming from such academic oversights is twofold. Not only have scholars failed to identify all those attributes of a retail centre that influence the cost of patronage, many have then proffered these same attributes as evidence that convenience does not serve as a salient influence over consumers shopping behaviour.

3.7 CONCEPTUAL FRAMEWORK

Academic definitions of convenience have typically been based on the perception that convenience-oriented behaviour is synonymous with a negative attitude to shopping (Bellenger et al 1977; Bellenger & Korgaonkar 1980). However, if a different approach is adopted, one that perceives retail centre convenience as comprising all attributes that influence the non-financial costs of patronage, then an alternative definition can be developed. Based on a review of literature, it is proposed that retail centre convenience consists of three dimensions and as many as eighteen attributes (figure 3.1).

Figure 3.1 The Conceptual Framework



According to this conceptual framework, consumer *beliefs* about the convenience of retail centre *attributes* are determined by their influence over the *dimensions* of convenience. While this definition offers a more conclusive alternative to preceding academic efforts, it must still be measured against consumer perceptions of retail centre convenience to ensure the two are consistent. Otherwise it is subject to the same frailties as existing definitions. This leads to the first research question:

Research Question 1: How do consumers define retail centre convenience?

The theoretical basis for the alternative definition is based on the notion that retail centre convenience consists of dimensions and attributes. Therefore in answering research question 1 it is necessary to address two research propositions;

Proposition 1: Retail centre convenience comprises dimensions that represent the non-financial costs of patronising a centre.

H1: Retail centre convenience consists of a temporal dimension.

H2: Retail centre convenience consists of an effort dimension.

H3: Retail centre convenience consists of a spatial dimension.

H4: Retail centre convenience does not consist of an aesthetic dimension.

H5: Retail centre convenience does not consist of a social dimension.

H6: Retail centre convenience does not consist of an economic dimension.

Proposition 2: Retail centre convenience comprises attributes that influence the non-financial costs of patronising a centre.

H7: One-stop shopping is an attribute of retail centre convenience.

H8: The proximity of a retail centre is an attribute of its convenience.

H9: Extended trading hours are an attribute of retail centre convenience.

H10: The provision of shopping services is an attribute of retail centre convenience.

H11: Climate control through enclosure is an attribute of retail centre convenience.

H12: The provision of pedestrian areas is an attribute of retail centre convenience.

H13: The visibility of stores from access routes is an attribute of retail centre convenience.

H14: The size and design of a retail centre is an attribute of its convenience.

H15: Locating compatible stores together is an attribute of retail centre convenience.

H16: Segregating retail and non-retail functions is an attribute of retail centre convenience.

H17: The availability of parking is an attribute of retail centre convenience.

H18: The ability to park close to desired stores is an attribute of retail centre convenience.

H19: The type of parking offered is an attribute of retail centre convenience.

H20: The number of lanes on access roads to a retail centre is an attribute of its convenience.

H21: The speed limits on access roads to a retail centre are an attribute of its convenience.

H22: The traffic controls used by a retail centre are an attribute of its convenience.

H23: The accessibility of a retail centre by public transport is an attribute of its convenience.

A major research flaw in academic studies of retail centre convenience has been the inconsistency in the definitions used to measure its importance. This raises the possibility that the lack of a universal definition may also apply to consumers. This leads to the second and third research questions:

Research Question 2: Do the dimensions of retail centre convenience differ across demographic and behavioural variables?

Research Question 3: Do the attributes of retail centre convenience differ across demographic and behavioural variables?

Once the alternative definition has been tested for its consistency with consumer perceptions, it can then be used to measure the influence of retail centre convenience over patronage behaviour. This leads to the fourth research question:

Research Question 4: How important is retail centre convenience in determining patronage behaviour?

It is proposed that the convenience attributes of a retail centre serve as salient influences over the attitudes of consumers and therefore their retail centre preference. However, research into convenience in general has found that its importance varies across consumers. In order to determine the importance of retail centre convenience it is necessary to ascertain whether its salience is consistent for all consumers, or whether it is simply limited to a smaller set of shoppers as existing retail literature suggests. This leads to the fifth research question:

Research Question 5: Does the importance of retail centre convenience differ across demographic and behavioural variables?

Based on the review of literature presented in chapter 1, there is anecdotal evidence that the most preferred retail form mirrors the most convenient retail form. If retail centre convenience does serve as a salient influence over patronage then the most preferred retail centre should also be the most convenient. This leads to the third research proposition:

Proposition 3: Consumers most preferred retail form will be the one offering the greatest convenience.

3.8 SUMMARY

This chapter used a review of the literature to explore the proposition that the lack of salience assigned to retail centre convenience can be attributed to the way in which it has been defined. *Convenience* is a word commonly used today. In fact, it would be fair to assume that the vast majority of consumers use the word *convenience* and have given it a meaning of their own. This meaning would derive from its dictionary definition and relate to the non-financial costs of undertaking an activity. When these costs are low, the activity is *convenient*, and when they are high, it is *inconvenient*. And yet in seeking to measure the importance consumers assign to convenience, academics have failed to define it in terms that consumers use. In complete contrast to its everyday meaning, academics have often defined convenience in aesthetic,

economic and social terms and portrayed it as static one-dimensional concept. As a result, academic studies consistently under-rate the importance of convenience, while trade surveys utilising layman's definitions continue to espouse its salience. Moreover, academic studies have yet to develop a commonly accepted definition of convenience. The ramifications of this are well surmised by de Vaus (1995, p 48), "If concepts have no set meaning then anyone can define a concept any way they wish. The result would be that the concept would become useless; unless people mean the same thing by a word, communication is impossible ... the view that concepts do not have real or set meanings can lead to conceptual anarchy".

In contrast to preceding academic studies, this study defines convenience-oriented shopping behaviour as being synonymous with consumer efforts to reduce the cost of patronising a retail centre. This notion is consistent with the meaning applied to convenience in virtually all other aspects of consumers lives. Innovations such as automatic teller machines, television remote controls and microwave ovens are widely recognised for the convenience they offer because they reduce the non-financial cost of undertaking an activity. There are three non-financial costs involved in patronising a retail centre; temporal, effort and spatial. Retail centre convenience can therefore be defined as consisting of all those attributes of a retail centre that minimise the temporal, effort and spatial costs of patronage. Using this definition as the criterion for selection yielded a list of eighteen attributes. Nine of these were derived from existing definitions of convenience (trading hours, proximity, public transport, parking availability, parking proximity, parking type, speed limits, traffic controls and the number of lanes on access roads), five were derived from a review of retail literature in general and included for their cost-minimising properties (compatibility, concentration, design, one-stop shopping and shopping services) and four have been included as test attributes, their influence on convenience as yet unknown (enclosure, pedestrian areas, store visibility and size).

As a further contrast to preceding academic studies, this study defines convenience according to its costs *and* attributes. The inclusion of costs is important because the evolving nature of retailing means that what is convenient today may not be so tomorrow. As a result, any model based on attributes alone risks quickly becoming obsolete. The inclusion of costs provides the necessary criteria by which to evaluate convenience attributes as retail innovations continue to arise. Existing definitions have failed to even clarify the meaning of convenience, simply resorting to listing its attributes instead. Devoid of any direction, these earlier efforts have portrayed convenience as a simplistic construct consisting of a maximum of four attributes. In light of Cox's (1959) notion of *aggregate convenience*, this serves as a plausible explanation as to why academic studies have found convenience to be a less than salient determinant of patronage behaviour.

However, in spite of all its potential advantages, the proposed definition of retail centre convenience must still be measured against consumer perceptions to ensure the two are consistent. Otherwise it is subject to the same frailties as its predecessors. In order to determine its meaning and importance, the study must focus on consumers beliefs towards what constitutes retail centre convenience, and their attitudes towards its importance. Chapter 4 details the methods that will be used to address these issues.

CHAPTER 4
RESEARCH METHODOLOGY FOR THE DEMAND-SIDE ANALYSIS

4.1 INTRODUCTION

Due to the inherent problems in developing valid indicators, multiple methods of data collection should be utilised (de Vaus 1995). Two general approaches will be used to address the research objectives of this study. In order to determine the influence of retail centre convenience over patronage behaviour, the first approach will focus on consumers beliefs and attitudes. As consumers serve as the origin of demand for the functions provided by a retail centre, this phase of the study is referred to as the demand-side analysis. However due to the contentious nature of the attitude-behaviour relationship (Runyon & Stewart 1987), an additional measure of analysis will be utilised. If convenience does serve as a salient influence over patronage behaviour, then the most convenient retail form should also serve as the most preferred and frequented retail form. The second approach will seek to determine the merit of this proposition. As the focus of this phase of the study is on the relative convenience of the two retail forms, it is referred to as the supply-side analysis. It is discussed in detail in chapters 5 and 7.

This chapter outlines the research methodology used for the demand-side analysis of this study. The focus of this stage is twofold. Firstly, it seeks to compare the researcher-defined model of retail centre convenience developed in chapter 3 with the way that consumers define convenience. This objective itself comprises three parts; (1) determining how consumers define retail centre convenience in terms of its dimensions; (2) determining how consumers define retail centre convenience in terms of its attributes; and (3) determining how consistent consumers are in their beliefs about its meaning. Secondly, it seeks to measure the importance of retail centre convenience. As part of this process, analysis will also focus on determining how consistent consumers are in their attitudes towards its importance.

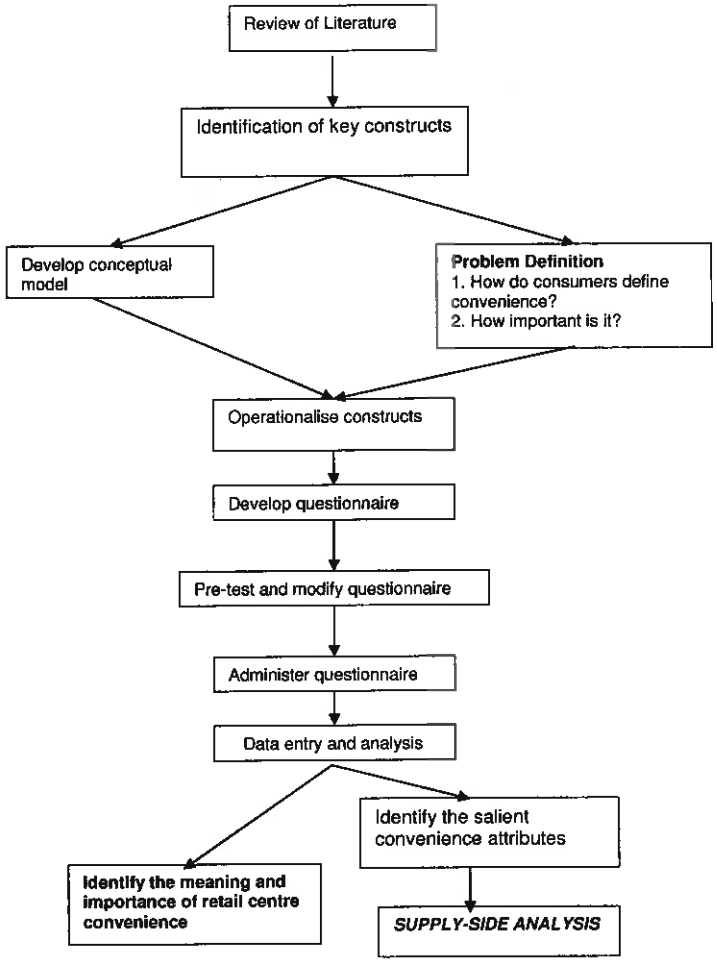
This chapter begins by describing the research design, followed by a discussion of the subjects involved in the study and an explanation of how the theoretical constructs were operationalised. This will include a detailed description of the methods of analysis used to determine the reliability and validity of the measurement instrument. The chapter concludes with a discussion of ethics, data coding, editing and analysis, and a brief description of respondents' profiles.

4.2 DESIGN

4.2.1 Research method

The research design for the demand-side analysis is set out in figure 4.1. Its key objective is to determine consumer beliefs and attitudes towards retail centre convenience. The most commonly used tool for this is the self-reporting technique, and the best example of it is the questionnaire (de Vaus 1995; Finn & Louviere 1996; Kinnear & Taylor 1996). This is due to its low cost and the relatively low demands it places on respondents. This in turn encourages increased response rates (Sudman & Blair 1998) and a larger sample size, which is necessary in order to use data analysis methods such as discriminant analysis and logistic regression (section 4.8). The survey method also satisfies the research objective of identifying sub-group differences (Burns & Bush 2000) in the meaning and importance assigned to convenience.

Figure 4.1 The research design process for the demand-side analysis



4.2.2 Questionnaire type

Only when the attitudinal predictor matches the behavioural criterion can the attitude-behaviour relationship be considered valid (Azjen & Fishbein 1977). This would suggest that patronage decisions should be measured in a patronage environment (Hughes 1971), and that retail centre intercepts therefore serve as the best survey method. There are however, several theoretical and practical factors that make personal interviews less than ideal for the nature of this study. The potential for response bias created by the high refusal rate for shopping mall intercepts (Zikmund 1991), in combination with the disadvantages associated with non-probability samples (Neuman 1997) are the key reasons for its rejection. Other reasons include its high cost, duration, its propensity for interviewer bias, and the desired sample size (Zikmund 1991). Due to these factors, the mail survey was chosen as the measuring instrument.

A major strength of the mail survey is its ability to reduce response error. This occurs because respondents are not subject to interviewer influence, anonymity encourages provision of socially undesirable information, and respondents can check the accuracy of their information (Kanuk & Berenson 1975; Houston & Ford 1976; de Vaus 1995; Cavusgil & Elvey-Kirk 1998). As such, there is consistent evidence that mail surveys provide the most accurate data (Aaker, Kumer & Day 1998) and the best quality answers (de Vaus 1995). There are also practical reasons for adopting mail surveys. The combination of a large sample, the closed nature of the questions, and the limitations imposed by temporal, financial and personnel constraints make it ideal.

4.2.3 Question type

Closed questions were used to collect data. While this method has its disadvantages (Keaveney & Hunt 1992; de Vaus 1995; Neuman 1997), open questions have been found to be even more problematic. Responses to open questions must be subjected to content analysis and coding of responses. However this process is not subject to rigid statistical analysis, because the required coding process introduces bias and the resulting data are not suited to powerful parametric statistical analysis (Zimmer & Golden 1988). Moreover, open-ended questions are not suited to mail surveys because they require greater effort from respondents, have greater space requirements and are best suited to verbal responses. There is also the potential for articulation bias whereby attitudes are over- or under-emphasised due to different degrees of detail given by respondents. And as confirmed by pre-testing, open-ended questions often yield irrelevant responses (refer section 4.2.11). There was also a concern that the answers provided would fail to indicate the intensity of an attitude, an important criterion in determining attribute importance (de Vaus 1995; Reardon, Miller & Coe 1996; Schuman & Presser 1996; Neuman 1997; Chowdhury, Reardon & Srivastava 1998).

Closed questions offer several practical advantages that are well suited to the research problem and methodology. They are ideal for mail surveys because they are quick and easy to complete, response categories can clarify the meaning of a question, and less articulate respondents will not be disadvantaged. Closed questions also yield more reliable data because responses are limited to the alternatives stated (Malhotra et al 1996). From the perspective of data analysis, answers are easily coded and compared (Sekaran 1992; de Vaus 1995; Neuman 1997).

4.2.4 Scale type

The Likert Scale was used to measure consumers beliefs about the dimensions and attributes of retail centre convenience. One of the greatest advantages of the Likert method is that it can produce scales that have good reliability and validity (Nunnally 1978; Spector 1992). It is comparatively simple for respondents to use, who as a result, are less likely to refuse to complete the questionnaire (Spector 1992; Neuman 1997). In combination, these strengths make the Likert Scale the most generally useful in the scaling of respondents with respect to psychological traits (Nunnally 1978). It is also well suited to mail surveys (Hair, Bush & Ortinau 2003).

One of the greatest areas of potential concern in research is the treatment of ordinal data as interval (Martilla & Carvey 1975). This is particularly true for multiple-item Likert scales. While the Likert scale is an ordinal scale (Martilla & Carvey 1975; Singh, Howell & Rhoads 1990; Neuman 1997), it is usually treated as an interval measure (Albaum, Best & Hawkins 1977; Sekaran 1992; Loewenthal 1996; Albaum 1997). This is because the same pattern typically emerges from its summated responses, irrespective of the data being treated as ordinal or interval (de Vaus 1995). Because attitudes and beliefs exist on a continuum ranging from one extreme to another in the mind of the respondent, it is common to use scaled-response questions in an assumed interval format (Burns & Bush 2000). Empirical evidence supports this assumption (DeVellis 1991; Albaum 1997; Loewenthal 2001). While this may lead to some small error, it is offset by the use of more powerful, more sensitive, better developed and more clearly interpretable statistics with known sampling error (de Vaus 1995). Furthermore, ordinal-scale statistical tests of significance do not work well with large samples because of the large number of tied rankings (Hughes 1971). For these reasons, the scales utilised in this study were treated as ordinally interval scales. It must be noted however that there are limitations in adopting this approach, and these are discussed in section 8.5.

There are two generally accepted methods for measuring the importance of attributes: conjoint analysis and the self explicated method. Conjoint analysis can lead to better choice predictions than the self explicated method because it provides greater control over the inferences that respondents make. In line with this view, the self-explicated method may result in unreliable measurement scales because of the potential for respondents to overestimate the importance of less-important attributes and underestimate the importance of the more-important attributes (Oppewal & Klabbers 2003).

However conjoint analysis is also subject to criticism. The repetitive questioning of conjoint analysis may not only reveal the purpose of the study and therefore cause acquiescence bias (Gibson 2001), it can also irritate respondents and cause fatigue (Phillips, Johnson & Maddala 2002). Such fatigue can lead to response error (Pullman, Dodson & Moore 1999) and force respondents to resort to simplifying tactics in order to avoid having to make difficult trade-offs (Srinivasan & Park 1997). One study utilising conjoint analysis found that 32% of respondents provided inconsistent responses, and that 28% chose on the basis of a key attribute (Phillips et al 2002). Due to the cognitive effort it requires, conjoint analysis is generally limited to studies involving small numbers of attributes (Huber, Wittink, Fiedler & Miller 1993; Srinivasan & Park 1997; Gibson 2001; Oppewal & Klabbers 2003). Given that one of the major research objectives of this study is to determine consumers beliefs and attitudes towards eighteen attributes, this factor was one of several that led to the self explicated method serving as the chosen method. Other determining factors include;

1. Conjoint analysis is not suited to mail surveys (Sudman & Blair 1998);
2. Conjoint analysis is better suited when the primary objective is to measure the relative, rather than the absolute importance of attributes (Sudman & Blair 1998);
3. Conjoint analysis should only be used once other methods have provided a general picture of preferences (Sudman & Blair 1998). This is because when confronted with a large number of attributes, the effort required by conjoint analysis forces the researcher to determine beforehand what attributes are important enough to include (Gibson 2001). Such a decision should be based on empirical data provided by other methods such as the self explicated method;
4. The quality of conjoint analysis is influenced by the education of the respondent (Acito & Jain 1980). Given that the sampling frame for the study is residential households, the consistent quality of data can not be guaranteed under conjoint analysis;
5. Conjoint analysis assumes that individuals make trade-offs within a resource constraint (Phillips et al 2002). Such an assumption may not hold true in the context of retail centre patronage;
6. The self explicated method has been found to provide greater reliability and predictive validity over conjoint analysis, particularly when respondents are familiar with the attributes (Leigh, MacKay & Summers 1984), as could be expected with a retail centre;
7. The ability of the self explicated method to predict actual choice behaviour is equivalent to conjoint analysis (Srinivasan & Park 1997).

In adopting the self-explicated method, several measures were taken to minimise its potential frailties. Unconscious misrepresentation was minimised by undertaking pre-testing, and setting clear questions that were neither personal nor socially sensitive. Its impact was also minimised by the nature of the research. For example, response bias is less likely because of the minimal time lapse between attitude and behaviour, and because respondents should be familiar with retail centres. As a precaution against response bias, deliberate efforts were made to carefully word questions, to keep the survey short, to make it interesting and to motivate respondents (Zikmund 2000). Another potential source of bias with the self-explicated method is acquiescence. However this is less likely in mail surveys, and when respondents have formed an opinion (de Vaus 1995), as could be expected with a re-occurring activity such as retail centre patronage.

4.2.5 Numbered scales

Although numbered scales do not automatically foster high reliability (Churchill & Peter 1984), they do provide the researcher with several advantages (Spector 1992). For example, respondents use the numbers as a clue to how to think about a question (Nunnally 1978). Numbered scale points were not only employed to facilitate data analysis, but also due to the intention to assume interval-scale data (Zikmund 1991).

4.2.6 Labelled scale points

In order for a scale to assume interval properties, the perceived distance between scale points must be equal. Such an assumption can be violated when; (1) the verbal descriptors assigned to scale points suggest unequal intervals; and/or (2) respondents assign different meanings to the verbal descriptors (Foddy 1993). For this reason, the use of verbal descriptors was limited to the anchor points of the importance scales. This method was not used for the belief scales because labelled

scale points are typically employed for Likert scales. While this threatens its interval properties, it is still commonly treated as an interval scale (Sekaran 1992; deVaus 1995; Loewenthal 1996; Albaum 1997). To facilitate this, labels were worded so as to imply roughly equal intervals between scale points (DeVellis 1991) and scale points were evenly spaced to connote a continuum (Burns & Bush 2000). Moreover, rather than assign labels to each scale, their use was limited to the instructions provided at the beginning of each new section. This was done to emphasise the numerical rather than verbal aspects of the scale.

4.2.7 The number of scale points

A key quality of a scale is variability. Its utility is limited when it fails to discriminate differences in the underlying construct. There are two ways to increase variability; increase the number of items or increase the number of scale points. To avoid respondent fatigue, the second option is preferable (DeVellis 1991). Moreover, if an interval scale is to be assumed, more points are necessary in order to use parametric statistics. More points will also improve the reliability of the scale (Hughes 1971), because it increases the proportion of systematic variance to total variance in the measure (Churchill & Peter 1984). Error variance does increase as the number of scale points increases, but there is also a simultaneous and more significant increase in the true-score variance (Nunnally 1978). More points also provide the option of collapsing categories after the data are collected should central tendency prove to be a problem (Oppenheim 1976; Cooper & Emory 1995; Neuman 1997). Because respondents have a greater propensity to use the middle 'uncertain' category when fewer categories are used, Foddy (1993) concluded that ratings scales should contain at least seven categories. The increase in reliability that comes with increasing the number of points also tends to level off at about seven (Nunnally 1978). This coincides with respondents limited capacity to utilise more than eight cues (Hughes 1971) and the diminishing improvement in recovery that occurs once the number of scale points reaches six (Green & Rao 1970). A seven-point scale was therefore used to measure both beliefs and attitudes.

4.2.8 Reverse scoring

A potential source of response bias is the tendency for individuals to respond to attitude statements for reasons other than the contents of the statement. To address this problem, items within each construct were varied so that respondents agreed with some and disagreed with others (Neuman 1997). This method of reverse scoring was utilised to address acquiescence bias whereby respondents agree with a large number of items out of boredom, laziness or a psychological predisposition.

4.2.9 Question sequence and grouping

The general question sequence will be as follows:

1. The importance of retail centre attributes;
2. Consumer definitions of convenience in terms of its attributes;
3. Consumer definitions of convenience in terms of its dimensions;
4. Demographic questions.

There are several reasons for this sequence. Firstly, by measuring consumer definitions of convenience after measuring the importance of retail centre attributes, it disguises a major purpose of the research and therefore decreases a potential source of bias. If questions focus on convenience immediately, it may alert respondents to the purpose of the research, thereby creating acquiescence bias towards convenience. Secondly, these single-item scales are relatively easy to

complete, thereby satisfying the principle that easier questions should precede difficult questions. For these reasons the section relating to the dimensions of convenience and its multi-item scales was been placed next to last.

Scales relating to the importance of retail strategies and individual convenience attributes were grouped together under the same question in order to determine the relative importance of convenience. Multiple-item scales were grouped together by dimension. While this method is subject to sequence bias, it increases mail response rates, thereby reducing non-response bias (Dillman 1978).

4.2.10 Questionnaire length

The ideal length for a mail questionnaire presents another contentious issue. One view holds that if the questionnaire is too short, respondents may dismiss it as trivial and not respond (de Vaus 1995). Another view holds that short questionnaires of four (Neuman 1997; Sudman & Blair 1998) to six pages (Zikmund 1991; Aaker et al 1998) are ideal. An alternative approach is to express the ideal length in terms of the time it takes to complete the questionnaire size. In this case, the questionnaire should take no longer than ten minutes to complete (Cooper & Emory 1995). In addition to their impact upon response rates, lengthy questionnaires may compromise the quality of data because of their complexity (Singh et al 1990) and impact on respondent fatigue. Based on these factors, the necessary research questions were moulded into a four-page questionnaire taking approximately 10 minutes to complete (as confirmed by pre-testing).

4.2.11 Pre-testing the questionnaire

Pre-testing the questionnaire is particularly important because it addresses a potential source of bias created when a researcher pre-determines which attributes will be measured (Palmer 1985). Pre-testing involved approximately three-hundred consumer participants, three shopping centre managers and twelve academics. The pre-testing of consumers took place over five separate stages over a twelve month period, with the transition of each stage marked by modifications to the questionnaire. Patients in the waiting room of a chiropractic clinic were invited to self-test the questionnaire while they waited. The clinic was chosen on the assumption that its clientele was representative of the wider shopping population. Although it did contain a greater proportion of older consumers, this did not disadvantage the study because according to Craig and McCann (1978) the elderly should be emphasised during pre-testing as they have the highest incidence of non-response. In addition to completing the questionnaire, participants were also asked to answer the following open-ended questions:

1. Were there any questions or answer options that you did not understand? If so, please indicate which questions or answers and why;
2. Can you think of any other qualities that make a retail centre more convenient?
3. Do you have any comments on the general structure and appearance of the questionnaire (e.g. print size, layout etc)?
4. How long did it take you to complete the questionnaire?
5. If you received this questionnaire in the mail would you complete it? If not, why?
6. Which of the following incentives would offer you the most encouragement to complete this questionnaire? A personal incentive such as a pen, a contribution to medical research (e.g. Peter MacCallum Cancer Institute), a contribution to animal welfare (e.g. RSPCA), or some other incentive (please indicate)?

Pre-testing revealed several important points including:

1. Store visibility was added to the list of convenience attributes to be tested;
2. The question wording of belief scales was changed because some respondents indicated that irrespective of the attribute, it required a combination of attributes, rather than a single attribute, to make a centre convenient. This potential source of bias was eliminated by asking the extent to which each attribute made a centre 'more' convenient;
3. Participants used the terms 'retail centre' and 'shopping centre' synonymously meaning that precise definitions of the two must be offered;
4. Academic definitions of shopping strips and shopping centres created the perception of a complex questionnaire, which could negatively impact upon response rates. Moreover, participants were not able to accurately distinguish between the various levels of retail centre (e.g. neighbourhood, community and regional) based on either physical size or number of businesses. They were however using actual examples of retail centres;
5. In order to measure the convenience of size it is necessary to operationalise it using an actual two-dimensional example (e.g. 600 metres by 400 metres). However many participants reported difficulty in conceiving the size of a retail centre in two-dimensional form. Size was therefore defined in one-dimensional form (e.g. it does not exceed 400m in length). This same problem also applied to design. Moreover no single measure accurately portrayed the wide cross-section of retail centre designs included within the sampling frame. It was therefore decided to use the same operational measure for design as well;
6. Despite the fact that shopping centre planners regard distances beyond 200 metres as excessive, this distance failed to distinguish between consumers: an important pre-requisite for attitude scales (DeVellis 1991). It was therefore decided to double this distance to 400 metres;
7. Respondents were unable to distinguish between lower prices as a dimension and lower prices as an attribute. Due to feedback indicating the repetitive nature of this question, lower prices were removed as an attribute. The convenience of lower prices was measured via respondents belief towards economic costs as a dimension of convenience. This step was taken on the grounds that economic costs were operationalised in terms of lower prices. Hence, the belief that convenience consisted of an economic dimension would also indicate that lower prices were an attribute of convenience;
8. The vast majority of respondents reported completing the questionnaire in 10 to 15 minutes;
9. The multi-item scales demonstrated satisfactory reliability, with all six dimensions recording Cronbach alpha scores above .70;
10. The most motivating financial incentive for almost 70% of participants was a charitable contribution to the Peter MacCallum Cancer Institute.
11. By the end of the third stage only 1-2% of questionnaires had offered additional convenience attributes. With the exception of visibility, all were irrelevant because they related to store attributes. No further attributes were offered during the fourth and fifth stages of pre-testing. For this and other reasons detailed in section 4.2.4, open-ended questions were omitted from the final version of the questionnaire.

After modifications to the fourth stage were completed, the questionnaires were then pre-tested using academics and shopping centre managers. Academics were provided with a description of the study and a working definition of the construct and then asked to review the scales to verify the definition of the phenomenon. A linguistic expert was also consulted to check for any ambiguous wording that may impact upon item reliability (DeVellis 1991). As a result, some minor modifications were made to the wording of instructions and the sequencing of questions. The questionnaire was then pre-tested a fifth and final time on consumers. However, to avoid any potential bias caused by familiarity, it was tested on a convenience sample of university students. University students, as young adults, represent a useful pre-test group because of their importance to retail centres. For example, they are the most frequent patrons of shopping centres and are therefore regarded as being critical to their success (Kang et al 1996). Pre-testing at this fifth stage revealed no need for further modifications.

4.3 SUBJECTS

4.3.1 Population

The target population for the study will be adult household consumers residing within the greater Melbourne area. Retail surveys are often directed to the eldest female of the household, on the assumption that they undertake the majority of household shopping. However, changes in household structure and gender roles, particularly the increased role of male shoppers, require a different approach. Questionnaires will be directed to the primary adult shopper in each household (Recker & Kostyniuk 1978; Shim & Eastlick 1998) due to the important deciding and purchasing roles they play in the purchase process. This approach also addresses several of the potential errors that can occur in attitude research, namely lack of *direct experience, lack of perceived instrumentality* and *low involvement* (refer section 4.5.3).

4.3.2 Sample Type

Probability sampling was used to draw the sample for this study. Under probability sampling each element has an equal, or at least known, chance of being selected, allowing the size of the sampling error to be calculated (de Vaus 1995). This method satisfies the criteria that the relevant characteristics of the population should be present in the sample in approximately the same way they are present in the population (Kerlinger 1986). It was also necessary to utilise a method of random sampling in order to satisfy a key assumption of data analysis methods such as T-tests and ANOVA.

4.3.3 Sampling frame

A software version of the residential telephone directory for the greater Melbourne area served as the sampling frame for this study. Telephone directories have been criticised for their social class bias and response bias (Babbie 1998). Poorer elements of the population often can not afford telephones, while other factors such as unlisted numbers and people who have recently moved, can also create an unrepresentative sample (Neuman 1997). In spite of these limitations, the telephone directory frequently serves as the sampling frame for sampling plans (Sekaran 1992). For optimum sample design however, the percentage of households with unlisted numbers must be known (Sudman 1973). In Australia, 97% of all households possess a residential telephone (Australian Bureau of Statistics 1998A), with less than 10% of households in the greater Melbourne area having an unlisted number. Most importantly, the incidence of unlisted numbers is not limited to any

single socio-demographic group, but rather is spread evenly across most elements of the population. Another possible limitation in using a telephone directory is non-response amongst the more mobile elements of the population. This is a very real problem, given that on average, 18% of Melbourne's population changes their address annually (Towsey 2000). This potential problem has been minimised however by scheduling the mail-out for July, just three months after the release of the April edition of the 2002 directory.

Furthermore, analysis of the residential telephone directory for the greater Melbourne area reveals that it satisfies the essential characteristics of random selection. Firstly, the percentage of Melbourne households listed more than once is insignificant (Towsey 2000). Secondly, the software package removed duplicated records thereby providing an identification system that denoted each unit element only once. Thirdly, the vast number of households that possess a residential telephone, in combination with the relatively low number of unlisted numbers, means that the directory serves as a frame with a well-defined population (Jacobsen 1976).

The use of a software package also allowed for the more precise setting of geographic boundaries. Due to its location within a large conglomeration of retail centres, Hawthorn was chosen as the centre for the geographic sampling frame. A potential problem in utilising the attitudinal concept arises when respondents do not have direct experience with the attitude object. Because experience derives from retail centre patronage, and patronage is in turn influenced by proximity (Patricios 1979; Potter 1982), a radius of fifteen kilometres was used. While this figure was based on consumers average travel time to larger retail centres (Tat & Thompson 1983; Chain Store Age 1985), it also offered a geographic sampling frame containing a relatively high concentration of retail centres.

4.3.4 Sample size

The larger a systematic sample, the more likely it will replicate its population (Jacobsen 1976). Even if all aspects of the questionnaire are executed properly, the results are still subject to random error or random sampling error because of chance variation. This error can only be reduced via a large sample size (McDaniel & Gates 1999). Accordingly, a sample of 1600 households was chosen. A potential sample size of 1600 offers a sampling error of just 2.5% at 95% confidence levels (de Vaus 1995). Moreover, it is consistent with sample sizes utilised in similar studies (e.g. Hudson 1974; Finn & Louviere 1990; Stoltman et al 1999). A larger sample also offers improved statistical power in that the ability of a statistical test to detect significant associations or differences is related to sample size (Loewenthal 1996). It is also necessary in order to undertake discriminant analysis and logistic regression (section 4.8).

4.3.5 Non-response

The potential for non-response bias is a critical issue in survey-based research. The greater the response rate, the more accurately survey data will estimate parameters in the population sampled. However, findings are representative of the population only if non-respondents do not differ in significant ways from respondents. When this criterion is not met, non-response bias occurs (Kanuk & Berenson 1975). There are two sources of non-response bias: failure to obtain data from a sizeable portion of sample members, and non-response to individual items (Yu & Cooper 1983). On average, only one in three mail questionnaires are filled out completely (Ferber 1966), with 3-8% of items typically left blank (Craig & McCann 1978). Non-response to individual items can provide biased estimates and low estimates of standard

errors (Ferber 1966). In order to reduce the incidence of non-response to individual items, the length of the questionnaire was limited to four pages and the number of potentially intrusive questions (e.g. demographic topics) were kept to a minimum and located at the end of the questionnaire. Moreover efforts were made to encourage respondents to answer all questions by making payment of the incentive conditional upon the questionnaire being **completed** and returned (Craig & McCann 1978).

Non-response to the questionnaire itself can be caused by refusal to respond, inability to respond (e.g. illiterate) and lack of accessibility to the researcher (Yu & Cooper 1983). Solutions to non-response bias include inferring the impact of non-response, drawing an initial sample that is larger than needed, or ideally, improving response rates (Yu & Cooper 1983; de Vaus 1995). The primary focus for reducing non-response bias was on improving response rates. In order to do this, Dillman's (1978; 1991) Total Design Method (TDM) was adapted to the needs of this study.

Consistent with the principles of the TDM, an effort was made to create the perception that the exchange between respondent and researcher would be equitable. The exchange consists of three parts; (1) cooperation; (2) trust; and (3) commitment. The respondent weighs the rewards of cooperation communicated through the survey package against the costs of responding. If the rewards exceed the costs, and the respondent trusts that promises will be kept, cooperation and commitment should follow (Childers & Skinner 1996). This suggests that the cover letter (cooperation), the promise of anonymity, offering questionnaire results (trust), and financial incentives (commitment) should serve as key influences over response rates.

4.3.5.1 Cover Letter

The cover letter provides the main opportunity to motivate respondents to complete the questionnaire (de Vaus 1995). Stationery that prominently identified Monash University as the source was deliberately chosen for both the cover letter and the outgoing envelope that contained it. This strategy was employed because an official or 'respected' source not only increases response rates (Kanuk & Berenson 1975), and the quality of response (Peterson 1975) it is also consistent with a social utility appeal. Research has found that when a university is the source of the study, a 'social utility' appeal elicits the greatest response rate (Cavusgil & Elvey-Kirk 1998). The cover letter therefore emphasised the need to improve retail centres and the importance each respondent played in this process, thereby also conveying altruistic reward. Because each questionnaire included a serial number for the purpose of follow-up it was necessary to emphasise the anonymity of the study, particularly because of the impact that non-anonymity can have on response (Houston & Ford 1976). Questionnaire results were also offered to respondents to further establish the perception of exchange and trust. Trust was further established by providing contact details for the Monash University Committee on Ethics in Research on Humans. Moreover, contact details of the researcher were also provided to foster trust and to reduce a potential source of non-response (Yu & Cooper 1983). The cover letter also emphasised the offer of financial incentives in a larger, bold and underlined font. Consistent with the pre-test findings that consumers used the terms shopping centre and retail centre interchangeably, and that participants were unable to distinguish between the various levels of retail centre using academic definitions, actual examples of retail centres located within the sampling frame were provided in the instructions included in the cover letter (Appendix A).

4.3.5.2 Financial incentives

Financial incentives are one of only two methods found to consistently encourage a larger response rate (Kanuk & Berenson 1975; Houston & Ford 1976; Cooper & Emory 1995). Monetary incentives have been found to increase mail response rates by 18-27% (Aaker et al 1998). A key strength of a financial incentive is its appeal to all income categories and its ability to attract attention (Zikmund 1991). While there is the possibility that the cost of a large incentive may outweigh the value of any additional information obtained (Yu & Cooper 1983), incentives can actually decrease the overall cost of the study by reducing the cost of follow-up (McDaniel & Gates 1999). Consistent with the social utility appeal and pre-testing it was decided to offer a contribution to cancer research as the financial incentive. An important consideration in the use of incentives is their potential to bias responses. The nature of the incentive can influence responses by altering mood. However as the incentive to be used is the same for all participants, it makes the effect constant (Hull & Michael 1995). Moreover, the increased response rate reduces non-response bias. Incentives can also introduce sample-composition bias if the incentive only appeals to a smaller proportion of the sample, causing the results to be non-representative of the population (Lin & Jones 1997). This potential source of bias was minimised by utilising an incentive identified in pre-testing as appealing to a significant majority of consumers.

4.3.5.3 Follow-up

Follow-up serves as the only other method with empirical support for its ability to maximise response rates (Kanuk & Berenson 1975; Yu & Cooper 1983). Consistent with the TDM, a follow-up postcard was sent approximately one week after the initial mail-out to those who had yet to respond. A second and final follow-up was then mailed-out to all non-respondents a further four weeks later. In each case the social utility of the research and the opportunity to help contribute to a charitable cause was emphasised.

4.4 OPERATIONALISING THE MEANING OF RETAIL CENTRE CONVENIENCE

4.4.1 Clarifying the constructs

A construct is the mental abstraction formed by the perception of a phenomenon (Kinnear & Taylor 1996). Constructs should be defined both constitutively and operationally. Because a construct is used to communicate, it should ideally be defined according to its most commonly understood sense (de Vaus 1995). The constitutive definition of retail centre convenience was therefore based on the dictionary meaning of convenience, which is defined as occurring when the non-financial costs of undertaking an activity are minimised. Retail centre convenience was therefore defined as being determined by the attributes of a retail centre that minimise the non-financial costs of patronage.

An operational definition specifies how a construct is to be measured by giving meaning to each of the variables used to define it. Because the constitutive definition was researcher-defined it is first necessary to determine whether it is consistent with what consumers believe constitutes retail centre convenience in terms of its dimensions and attributes. This objective is consistent with the essence of the measurement process (Churchill & Iacobucci 2002) in that it is not retail centre convenience itself that is to be measured but rather its components. Individuals perceive an object as having many attributes and form beliefs about each of these attributes. Attributes are the features or characteristics an object may or may not have (Lancaster 1966; Verhallen & Nooij 1982). It is also consistent with the need to understand the beliefs upon which attitudes are created before attempting to understand the attitude itself (Assael 1992).

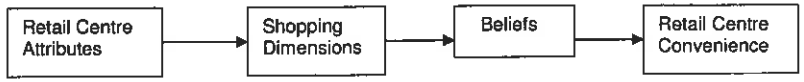
4.4.1.1 The independent variables
The dimensions and attributes of retail centre convenience were previously discussed in chapter 3.

4.4.1.2 The dependent variable
In order to determine the meaning of retail centre convenience, it is first necessary to define the two retail forms. A shopping strip comprises a series of independent shop fronts that have grouped together along arterial roads that is not centrally owned or managed (McColl-Kennedy & Kiel 2000). In contrast, a shopping centre is a group of retail premises that have been planned, developed, owned and managed as an integrated operating unit and have common ownership and property management. It typically operates as an architecturally unified unit related in location, size, and type of shops to the trade area it serves, providing on-site parking in definite relationship to the types and sizes of stores it possesses (Carlson 1991; Berman & Evans 1998; McColl-Kennedy & Kiel 2000). The task of defining a shopping centre is complicated by its hybrid forms, which include strip shopping centres, specialty shopping centres (e.g. fashion-oriented, discount-oriented etc) and power centres (Kirkup & Rafiq 1999). While a shopping strip has been defined in terms of its position along arterial roads (McColl-Kennedy & Kiel 2000), smaller shopping centres, strip shopping centres and power centres not only choose similar locations, they are sometimes located within shopping strips. Essentially it is the managed nature of the shopping centre that sets it apart from the shopping strip. In spite of this theoretical distinction, the potential for confusion among respondents still existed. Therefore questionnaire instructions provided examples of relevant retail centres within the geographic sampling frame.

In defining the two retail forms it was also necessary to include one further criterion. In order to determine the influence of convenience over consumers preference for shopping strips and shopping centres, focus must be limited to retail centres that compete at the same level in the urban hierarchy. Otherwise preference could be influenced by any number of other factors. Size was used to determine the level at which each retail centre competed in the urban hierarchy. Only retail centres of at least community-level were included in the sampling frame. In order to satisfy this criterion, shopping centres had to contain at least one department store or supermarket and forty or more specialty shops (McColl-Kennedy & Kiel 2000), while shopping strips had to contain at least one hundred and twenty-five businesses (Potter 1982). While this created a disparity in the respective number of tenants, the competitive position of a retail centre is determined by the quality of its stores, not their number (Potter 1982; Meoli et al 1991). By using key attractors to compensate for their smaller size, shopping centres are able to effectively compete with their larger shopping strip counterparts: a factor empirically confirmed by Johnston and Rimmer's (1969) retail study of Melbourne. Neighbourhood centres were not included because convenience is already recognized as the determinant influence in their patronage (Hartnett 1995A).

4.4.1.3 The mediating construct
Beliefs can be defined as the probability a person attaches to a given piece of knowledge being true (Loudon & Della Bitta 1993) and the basis for judgements about the association between an object and its attributes (Wilkie & Pessemier 1973; Stevens, Wrenn, Ruddick & Sherwood 1997). Based on this definition, it is proposed that consumers form beliefs about the convenience of a retail centre based on the extent to which its attributes reduce the non-financial costs of shopping (figure 4.2).

Figure 4.2 Defining retail centre convenience



It is impossible to measure a belief directly because it is an abstract concept referring to a phenomenon that occurs within the mind. However based on the notion that a belief refers to the probability a person attaches to a given piece of knowledge being true, beliefs can be measured indirectly by asking participants about the extent to which they agree that attributes and dimensions make a retail centre more convenient (adapted from McDaniel & Gates 1999). This indicates that Likert scales should be used to measure beliefs. Likert scales are well suited to belief measurement because the intensity levels they use infer a continuum along which respondents indicate the extent to which each statement represents their belief. As such, these statements of relative agreement can be regarded as statements of belief (Fishbein 1967; Hair et al 2003). In order to ensure that the scale point descriptors (e.g. agree, disagree etc) were consistent with the data being collected (Hair et al 2003), respondents were asked to indicate the extent to which they agreed or disagreed with a statement, rather than their specific beliefs. And in line with pre-test findings, the question asked respondents to indicate the extent to which each attribute makes a retail centre *more* convenient.

4.4.2 Developing indicators

A key concern in developing indicators is whether to use existing scales or to develop original scales. One view holds that scale calibration is so important that the test instrument should be restricted to previously used measures (Lehmann 1989). Existing scales do offer the advantages of established reliability and validity, and comparability with other studies (Spector 1992; Dillon, Madden & Firtle 1994; de Vaus 1995; Loewenthal 1996). However, while intuition would suggest that scales borrowed from previous studies would have higher reliability, research has shown that this is not always the case (Churchill & Peter 1984). According to Cooper and Emory (1995), the tools of data collection should be adapted to the problem, not the reverse. Existing scales could not be utilised because previous studies have ignored the need to determine the specific meaning or importance of retail centre convenience. Therefore original scales were developed to measure each of the six dimensions. These new scales were based upon key descriptors from two key sources. The first was other retail patronage studies (e.g. McDonald 1994; Roy 1994; Berry et al 2002) and the second, dictionaries and thesauruses. The second method was used to maximise the likelihood that the meaning of each dimension would be consistent with that given to it by consumers. The questionnaire was also pilot tested on participants that were representative of the sample population (de Vaus 1995).

In developing indicators for constructs it is not only necessary to determine what indicators will be used, but also how many. The number of items serves as one of the two key measurement characteristics that have the strongest impact on reliability estimates (Churchill & Peter 1984). In fact, the number of items is more important than the choice of scale (Stevens et al 1997). The decision to use single- or multi-item scales depends on the attitude object and its number of salient characteristics. Where it is one-dimensional, single-item measures should be used (Dillon et al 1994). Such measures are used on the assumption that for a homogenous population, average values can be calculated and an averaging process used to create a reliable statistic (Lehmann 1989; Sudman & Blair 1998). Moreover, by avoiding the need to use multi-item scales except where necessary, it

minimises questionnaire length thereby avoiding a potential source of non-response error (Lehmann 1989). Single-item Likert scales were therefore used to measure respondents beliefs about the convenience of each retail centre attribute.

When the attitude object is multi-dimensional, multiple scales must be used. Because attitudes are complex, a single-item scale may provide only a crude measure of an individual's overall attitude. Multiple-item indicators are more reliable than single item measures (Lehmann 1989), and easier methods exist to assess their reliability (Hensel & Bruner 1992; Dillon et al 1994; de Vaus 1995). The more important the question is to the overall research objective, the more items should be used (Sudman & Blair 1998). As such, key constructs should be measured using multiple items (Lehmann 1989). Multiple scales were used to measure the six dimensions because; (1) each dimension is influenced by multiple characteristics of a retail centre; (2) they share an important link with the generic meaning of convenience; and (3) they serve as the likely criteria against which the convenience of attributes is evaluated.

4.4.2.1 Constitutive and Operational Definitions of Retail Centre Convenience

Constitutive Definition — Retail centre convenience is determined by the attributes of a retail centre that minimise the non-financial costs of patronage.

Operational Definition — The meaning of retail centre convenience is determined by the extent to which consumers believe that retail centre attributes reduce the non-financial cost of retail centre patronage.

Measurement Scale — The measurement scale consists of 18 items for attributes (refer Appendix B) and 26 items for dimensions (table 4.1), with each item assessed by a 7-point scale with category labels; 1=strongly disagree; 2=disagree; 3=slightly disagree; 4=neither agree nor disagree; 5=slightly agree; 6=agree; 7=strongly agree.

Table 4.1 Multi-item measurement scales used to operationalise the dimensions of retail centre convenience (NB: some of the scales have been abbreviated).

Construct	Item	Measure	Cronbach Alpha
Time	Time1	A convenient centre is one that saves you time when you shop.	.7609
	Time2	I define shopping convenience by the time it takes to shop	
	Time3	Long delays don't make a centre inconvenient (R)	
	Time4	It takes less time to shop at the centre	
	Time5	I don't define convenience in terms of the time it takes to shop (R)	
Space	Space1	A convenient centre reduces unnecessary walking	.8131
	Space2	Its not inconvenient to walk long distances between shops (R)	
	Space3	It's inconvenient when stores are spread all over the place	
	Space4	I don't define 'shopping convenience' in terms of the distance you walk (R)	
	Space5	I judge the convenience of a centre is by how far I have to walk	
Effort	Effort1	A centre that makes shopping easier also makes shopping convenient	.6391
	Effort2	Centres that make shopping a hassle are inconvenient	
	Effort3	Saving effort isn't a factor I use to define 'shopping convenience' (R)	
	Effort4	Making a centre more convenient means making shopping simpler.	
	Effort5	Excessive effort doesn't make a centre less convenient (R)	
Aesthetic	Aest1	Just because a centre looks attractive, doesn't mean it's convenient (R)	.6587
	Aest2	I define shopping convenience in terms of the way a centre looks.	
	Aest3	"Looking Good" and being convenient are two totally different things (R)	
	Aest4	The more trees, statues & fountains a centre has, the more convenient it is	
Social	Soc1	A social outing and shopping convenience are 2 different things (R)	.7182
	Soc2	I often find it more convenient to shop on my own (R)	
	Soc3	Chatting with other shoppers can be nice, but not when I'm in a hurry (R)	
	Soc4	Socialising isn't one of the factors I use to define convenience (R)	
Economic	Eco1	A centre is only convenient when it offers lots of discounts	.7158
	Eco2	Being cheap and being convenient are two totally different things (R)	
	Eco3	A centre can't be convenient unless it's 'easy on the pocket'.	
	Eco4	Just because a centre offers lower prices, doesn't mean its convenient (R)	

4.4.3 Reliability

Prior to the empirical use of a multi-item scale it is necessary to determine whether the scale actually measures the constructs it was developed to capture (Peter 1979). A measurement instrument is reliable if it provides the same result over two or more separate measures (McDaniel & Gates 1999) and is therefore free of variable errors (Danaher & Haddrell 1996). No measures of reliability were used for the single-item scales on the assumption that via the calculation of average values, the averaging process would create a reliable statistic (Lehmann 1989; Sudman & Blair 1998). To assess the reliability of multi-item scales, Churchill (1979) suggests using coefficient alpha and factor analysis.

4.4.3.1 Coefficient alpha

Cronbach's coefficient alpha is regarded as the most important test of reliability (Nunnally 1978; Loewenthal 2001). It indicates the proportion of variance in scale scores attributable to the true score of the latent variable (DeVellis 1991). As such, it determines the quality of a measure by taking into account all the inter-associations between all items in the scale (Danaher & Haddrell 1996; Loewenthal 1996). The measurement of reliability is a coefficient analogous to a proportion in which 1.00 indicates perfect reliability (Burns & Bush 2000). While debate exists over what constitutes a reliable score, alpha scores above 0.65 are regarded as acceptable (DeVellis 1991) particularly when there are fewer than ten items per construct and the scale is new (Loewenthal 2001). Therefore with five of the six constructs yielding an alpha score ranging between .66 and .81, the original scale was regarded as reliable. The one exception was the effort construct, which recorded an alpha score of .64. Analysis revealed that two items (scale items effort3 and effort5) yielded low item-scale correlations and low squared multiple correlations and were therefore dropped from the final scales (Nunnally 1978; DeVellis 1991; Loewenthal 1996). This had the effect of increasing the alpha score to .69, thereby indicating reliability (DeVellis 1991). Items were also dropped from the time and aesthetic constructs (scale items time3 and aesthetic3) due to low item-scale correlations and low

squared multiple correlations. As a result, the alpha score increased to .79 for the time construct and .68 for the aesthetic construct.

4.4.3.2 Factor analysis

According to Loewenthal (1996) factor analysis may not be necessary where satisfactory reliability has already been obtained. However, by determining empirically how many constructs underlie a set of items, factor analysis tells us what reliability coefficients cannot (DeVellis 1991). As the summated scales are proposed to consist of multiple dimensions, each dimension should be reflected by a single factor. Empirical confirmation of this would indicate that each of the six summated scales consists of items loading highly on a single factor and that each represents a single construct (Hair, Anderson, Tatham & Black 1998). Factor analysis is pivotal in establishing this, determining the number of factors and the loadings of each variable on the factor.

Factor analysis techniques can be either exploratory or confirmatory. Given that the objective of establishing the reliability of the measurement instrument coincides with the latter's objective of determining whether the scale correlations are consistent with a hypothesized factor structure (Tabachnick & Fiddell 2001), confirmatory factor analysis would appear to serve as the ideal technique. DeVellis (1991) however suggests that exploratory factor analysis is more objective in such a situation because the analysis has not been instructed to identify a specific pattern. Exploratory factor analysis was therefore used to examine the unidimensionality of the constructs.

The twenty-three items of the dimensions of convenience scale were subjected to principal components analysis using SPSS. Prior to performing the analysis the suitability of data for factor analysis was assessed. The Kaiser-Meyer-Oklin value was .83, a score regarded as excellent for the purpose of factor analysis (Hair et al 1998; Field 2000). Moreover, the Bartlett's Test of Sphericity reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix. Eigenvalues were used to determine the number of factors to rotate. While the scree test is often preferred (DeVellis 1991), eigenvalues were used based on the number of items (Hair et al 1998; Malhotra, Hall, Shaw & Crisp 2002) and sample size (Field 2000).

Analysis indicated that the initial hypothesis of six factors was correct, revealing the presence of six components with eigenvalues exceeding one, explaining 23.3%, 12.4%, 8.1%, 6.1%, 5.8% and 4.9% of the variance respectively. Consequently, six factors were rotated using a Varimax rotation procedure. The rotated solution as shown in table 4.2, yielded six interpretable factors each one consistent with the hypothesised space, time, effort, social, economic and aesthetic dimensions. For the purpose of interpretation, each factor comprised variables that loaded .40 or higher on that factor. In three instances where variables loaded .40 or above on two factors each variable was assigned to the factor where it had the highest loading (Malhotra et al 2002). The six-factor solution explained a total of 60.6% of the variance. The results of this analysis support the hypothesized use of the six dimension scales as separate scales.

Table 4.2 Rotated Component Matrix for the dimensions of convenience scale

Item	Construct1	Construct2	Construct3	Construct4	Construct5	Construct6
SPACE4	.844					
SPACE2	.715					
SPACE5	.652		.453			
SPACE1	.606		.442			
SPACE3	.568		.489			
TIME1		.811				
TIME2		.810				
TIME4		.750				
TIME5		.594				
EFFORT1			.675			
EFFORT2			.623			
EFFORT4			.607			
SOCIAL4				.753		
SOCIAL3				.718		
SOCIAL2				.715		
SOCIAL1				.643		
ECO2					.753	
ECO4					.728	
ECO1					.701	
ECO3					.661	
AEST2						.787
AEST4						.753
AEST1						.518

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 11 iterations.

Single-item scales were used to measure the convenience respondents' assign to each of the attributes. A fundamental disadvantage with using single-item scales is that in the absence of a test-retest method (DeVellis 1991), there is no direct method of assessing their reliability (Burns & Bush 2000). However the reliability of a set of single-item scales can be assessed via exploratory factor analysis. This method was used to determine if factors emerged that measure a common underlying construct. Deductive reasoning was then used to assess whether each factor represented a logical grouping of items. If this is the case, Cronbach Alpha can then be applied to each of the factors to measure the reliability of the items comprising each factor (e.g. Goodwin & McElwee 1999).

The sixteen items of the attributes of retail centre convenience scale were subjected to principal components analysis using SPSS. Prior to performing the analysis, the suitability of data for factor analysis was assessed. With a Kaiser-Meyer-Oklin value of .72, and the Bartlett's Test of Sphericity reaching statistical significance ($p < .001$), the data was deemed fit for factor analysis. A scree test and eigenvalues were both used to determine the number of factors to be extracted (Coakes & Steed 2001; Pallant 2001). While eigenvalues suggested five factors, the scree plot indicated the presence of three factors. Preference was given to the scree test on the *a priori* assumption that based on face validity and the balance of retail literature it provided the more accurate indication of the ideal number of factors (Malhotra et al 2002).

Consistent with the proposition that convenience consists of three dimensions, the scree test revealed the presence of three constructs. A deductive assessment indicated that each factor represented a logical grouping of items. For example, construct 1 comprised all attributes relating to spatial convenience and access. These three constructs were then rotated using a Varimax rotation procedure. The rotated solution as shown in table 4.3 yielded three interpretable factors. The first factor explained 16.1% of the variance and was labelled spatial convenience due to the loading of such items as *compatibility, concentration, centre size* and *parking*

proximity. The second factor explained 14.1% of the variance and incorporated temporal attributes such as *one-stop shopping, proximity to home* and *extended trading hours*. While *one-stop shopping* and *proximity* could also be interpreted as spatial factors, several studies have found that consumers interpret inter-centre travel more in terms of time than space (e.g. Spence 1971; Hubbard 1978). As such, the second factor was labelled temporal convenience. The third factor explained 12.6% of the variance and was labelled effort convenience based on the attributes *shopping services* and *pedestrian areas*.

Each of these three factors is consistent with the proposition that convenience comprises spatial, temporal and effort dimensions. For the purpose of interpretation, each factor comprised variables that loaded .40 or higher on that factor. In the one instance where a variable loaded .40 or above on two factors it was assigned to the factor where it had the highest loading (Malhotra et al 2002). The three-factor solution explained a total of 42.8% of the variance, a proportion that is regarded as very reasonable (Sproles & Kendall 1986).

Table 4.3 Rotated Component Matrix for the attributes of convenience scale

Item	Construct1	Construct2	Construct3
Compatibility	.662		
Concentration	.658		
Size	.560		
Lane Number	.554		
Parking Proximity	.545		
Parking Availability	.519	.449	
Speed Limits	.489		
Public Transport	.423		
Traffic Controls	.405		
One Stop Shopping		.724	
Proximity to Home/Work		.665	
Extended trading hours		.646	
Enclosure		.458	
Pedestrian Areas			.772
Shopping Services			.710
Store Visibility			.650
Eigenvalues	**3.68**	**1.69**	**1.47**
Cronbach Alpha Coefficient	**.72**	**.66**	**.68**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations.

Cronbach's coefficient alpha was then used to test the reliability of the scale (Loewenthal 2001). For new scales comprising fewer than ten items per construct, alpha scores above 0.65 are regarded as acceptable (DeVellis 1991; Loewenthal 2001). With the spatial (.72), temporal (.66) and effort factors (.68) all recording alpha scores above .65, the attributes of retail centre convenience scale was regarded as reliable.

4.4.4 Validity

The validity of a scale is the extent to which differences in scores on it reflect true differences among individuals, rather than constant or random errors (Danaher & Haddrell 1996). In order to establish the validity of a scale, four types of validity measures are recommended; (1) content or face; (2) convergent; (3) discriminant; and (4) criterion validity (Danaher & Haddrell 1996; Loewenthal 1996).

4.4.4.1 Content validity
A scale has content validity to the extent that its items represent a chosen subset of the universe of appropriate items (DeVellis 1991). It rests on the ability to adequately cover the most important attributes of the object (Stevens et al 1997). It is attained by defining precisely what must be measured via literature reviews, expert panels and pre-testing, to ensure that all possible attributes are included on the scale (McDaniel & Gates 1999). These factors in combination with the use of dictionaries, thesaurus' and a language expert to generate items, suggest that the scales possess content validity.

4.4.4.2 Discriminant and convergent validity
Discriminant validity requires that a measure does not correlate too highly with measures from which it is supposed to differ, otherwise the measure may have captured an isolated trait or is simply reflecting method variance. Convergent validity refers to the confirmation of a relationship by independent measurement procedures. For it to occur, methods measuring the same construct should all have a high level of correlation (Churchill 1999). To assess the discriminant and convergent validity of the dimensions scale, each item was correlated with its own scale (with the item removed) and with the five other dimensions (Green, Salkind & Akey 2000). The results of these analyses are shown in table 4.4. In support of the scales validity, items were always more highly correlated with their own scale than with the other scales.

Table 4.4 Correlations of each dimension item with its own scale after removing focal item (bold) and with the other scales.

	Time	Space	Effort	Aesthetic	Social	Economic
Time1	**.65**	.34	.40	-.15	-.25	-.01
Time2	**.65**	.32	.40	-.13	-.30	-.04
Time4	**.65**	.40	.42	-.17	-.26	-.01
Time5	**.42**	.35	.22	-.22	-.17	-.12
Space1	.37	**.62**	.40	-.06	-.14	-.05
Space2	.29	**.50**	.25	-.19	-.10	-.07
Space3	.33	**.58**	.43	-.16	-.23	-.05
Space4	.34	**.66**	.28	-.18	-.19	-.09
Space5	.38	**.67**	.42	-.04	-.19	.05
Effort1	.34	.39	**.52**	-.08	-.24	-.04
Effort2	.29	.31	**.41**	-.22	-.23	-.10
Effort4	.40	.41	**.51**	-.11	-.25	-.02
Aest1	-.17	-.13	-.18	**.46**	-.26	.20
Aest2	-.14	-.10	-.09	**.51**	-.20	.35
Aest3	-.15	-.09	-.12	**.42**	-.35	.28
Aest4	-.17	-.17	-.15	**.46**	-.20	.28
Soc1	-.21	-.15	-.19	.36	**.47**	.21
Soc2	-.18	-.11	-.19	.17	**.48**	.14
Soc3	-.28	-.22	-.32	.17	**.53**	.11
Soc4	-.20	-.17	-.20	.32	**.56**	.26
Eco1	-.01	-.04	-.01	.33	.10	**.57**
Eco2	-.07	-.02	-.12	.23	.29	**.48**
Eco3	-.01	-.02	.03	.30	.13	**.53**
Eco4	-.13	-.09	-.11	.29	.22	**.45**

4.4.4.3 Criterion validity
Criterion validity may be classified as either concurrent or predictive validity. Concurrent validity is established when an attitude measure is consistent with a criterion measure (Zikmund 2000). In order to establish the concurrent validity of measures used to determine the influence of convenience on patronage behaviour, chi-square tests were used to measure the relationship between respondents most preferred and frequented retail form and their perceptions of which retail form is

most convenient. The results of these analyses are discussed further in section 4.5.5.

4.5 OPERATIONALISING THE IMPORTANCE OF CONVENIENCE

4.5.1 Clarifying the concepts

In seeking to determine the importance of convenience it is necessary to focus on the importance of its attributes rather than the construct itself (McDaniel & Gates 1999). The salience of each convenience attribute was defined by the influence it exerted over consumers retail centre preference (adapted from Burns & Bush 2000). As consumer patronage behaviour serves as the dependent variable, consumer attitudes as the mediating construct between attributes and patronage will be used to determine the importance of convenience attributes.

4.5.2 The independent variables

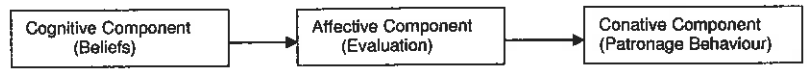
The dimensions and attributes of retail centre convenience were previously discussed in chapter 3. It is not an object per se that gives utility, but rather its attributes (Lancaster 1966). In fact, shopping utility can be defined as a function of retail attributes (Verhallen & Nooij 1982). Behaviour is then determined by consumers desire to obtain not the object itself, but its attributes (Lehmann 1972). Of greater significance, due to its stronger influence over the formation of attitudes, is the concept of attribute importance. Attribute importance refers to an individual's general assessment of the significance of an attribute (Mowen & Minor 1998). Those attributes upon which the consumer places the greatest emphasis are determinant or salient attributes. It is these attributes that provide the key to understanding consumer patronage behaviour (Alpert 1971). Due to the one-dimensional nature of the importance of a convenience attribute, single-item importance ratings scales were used to measure consumer attitudes (Dillon et al 1994).

4.5.3 The mediating construct: Attitudes

Consumers are considered to form attitudes towards every concept they interpret in terms of its personal relevance (Peter & Olson 1999). The importance of the attitude construct lies in the fact that while individual factors (e.g. motivation, learning, personality) and social factors (e.g. culture, family, social class) influence behaviour, attitudes can be considered as the psychological mechanism through which they operate (Runyon & Stewart 1987). In an affluent society, consumers buy to meet psychological as well as physical needs, and therefore an understanding of consumer attitudes is imperative (Hughes 1971). And yet, despite their unchallenged centrality, researchers have yet to agree upon a universal definition.

According to the attitudinal model (figure 4.3), attitudes are multi-dimensional, comprising cognitive, affective and conative components. The beliefs consumers hold towards an object is the cognitive component of attitudes, the way in which the consumer evaluates the object is the affective component, and the patronage intention is the conative component (Peter & Olson 1999). These components can be combined to create a process that links attitudes to patronage behaviour. Consumers form beliefs (cognitive component) about an object based on its attributes. The consumer's beliefs about the individual attributes of an object then lead to an overall evaluation. This evaluation then leads to a favourable or unfavourable response (affective component), thereby influencing patronage behaviour (conative component).

Figure 4.3 The Attitudinal Model



An opposing view holds that attitudes and beliefs are two separate psychological concepts and that consumers form attitudes on the basis of their beliefs (Wicker 1969; Hughes 1971; Oppenheim 1976; Loudon & Della Bitta 1993; Peter & Olson 1999). It is consumers beliefs towards salient attributes (Azjen 1993), and the total amount of affect associated with each of these beliefs (Anderson & Fishbein 1967) that are considered to be the immediate determinant of a person's attitude. The numerous attributes that comprise an object are of differing benefit to consumers. Overall affect (or attitude) is determined by the net resolution of the consumer's beliefs that an object possesses certain attributes, and the value the consumer attaches to these attributes (Wilkie & Pessemier 1973). Such is the close relationship between attitudes and beliefs that beliefs can be viewed as expressions of attitude, and are in fact, often used to measure it (Fishbein 1967A).

However, two key factors set beliefs and attitudes apart. Firstly, attitudes include affective, conative and cognitive components. Because beliefs derive from the cognitive component, all attitudes include beliefs, but not all beliefs are attitudes (Katz 1960). Secondly, whereas belief questions ascertain what a person thinks is true, attitude questions try to establish what they think is desirable (de Vaus 1995). For the purpose of this study an attitude serves as an object appraisal function indicating the amount of affect for or against an object on an evaluative continuum. The strength of this synthesised definition adopted from Fishbein (1967A), Allen, Machleit and Schultz-Kleine (1992) and Dick and Basu (1994) is that in addition to limiting the meaning of attitude to an affective evaluation, it also indicates the means for operationalising this construct. Attitudes will be measured by determining the importance assigned to each convenience attribute (affect) on an importance rating scale (evaluative continuum).

It is not possible to develop a valid operational measure of attitude without first understanding its limitations. Studies have found that consumers attitudes towards an object can prove to be poor predictors of behaviour. In fact, the majority of research has found the relationship between attitudes to an object and specific single behaviours to be a weak one (Peter & Olson 1999). There are several reasons for this. Firstly, because favourable attitudes toward an object can be expressed in many different behaviours, it is difficult to predict exactly what action the consumer will take. An individual must not only learn the appropriate predisposition toward any given object, but also what response to make. Because there is no innate relationship between the two, two people may have learned the same attitude, but also learned two different ways of responding to it (Fishbein 1967B). Secondly, there are many attitudes relevant to any given behaviour, and thus the relationship between the behaviour and a single attitude may appear to be inconsistent because other attitudes have not been considered (Wicker 1969). It must also be noted that an attitude is an evaluation of the expected utility that an object provides, not a motivation to acquire it (Hughes 1971). Moreover, the context in which an object will be purchased cannot be accurately predicted. Moderating conditions such as ability and opportunity lie between action tendencies and behaviour. Because attitudes are learned, they are subject to new stimuli and forgetting. This is particularly true for lower-order goods, where changes in social, physical and temporal situations are likely to render behavioural predictions meaningless (Fishbein 1967B).

The term opinion is often used synonymously with belief to symbolise an attitude (Fishbein 1967A). An opinion is the verbal expression of an attitude, but attitudes can also be expressed in nonverbal behaviour (Katz 1960). This carries with it the perceived danger that the measurement of an attitude as expressed by an opinion, cannot accurately predict behaviour (Thurstone 1967). As a result of these potential flaws Fishbein (1967B), was lead to conclude that after decades of attitude research, there was little, if any, consistent evidence to support the attitude-behaviour relationship. In separate studies, Rokeach (1967) and Wicker (1971) both reached similar conclusions, the former recommending that the nature of the attitude-behaviour relationship be reconsidered, the latter suggesting that it be abandoned altogether.

Whereas patronage behaviour was traditionally viewed as occurring after the formation of beliefs and attitudes, researchers now acknowledge there are circumstances where the belief-attitude-behaviour model will not hold true. Once an attitude has been formed, it is stored in long-term memory, to be retrieved when necessary to help the individual interact more effectively with their environment (Mowen & Minor 1998). Some attitudes however, are so weakly held they may be irretrievable, thereby having no impact upon behaviour (Assael 1992). Other situations in which attitudes may fail to accurately predict behaviour include;

- Intervening time is regarded as the major factor undermining the predictive accuracy of measured intentions. The longer the interval between attitude measurement and behaviour, the greater the likelihood that external circumstances will arise that lead to a change in intended behaviour;

- Lack of direct experience with the object - consumers are less likely to form strong attitudes towards an object they do not have direct experience with;

- Changing market conditions such as price increases, product shortages and the actions of competitors can cause a change in patronage behaviour without causing a change in attitude;

- Low involvement - attitudes toward an object will be weaker where the potential benefits are of little value to the consumer. When confronted with a low involvement purchase decision, the consumer may actually form beliefs after purchase. The link between intentions and behaviour is closest for higher involvement patronage decisions;

- Changing personal factors such as a fall in income can also have an impact upon patronage behaviour without having had an impact upon attitudes;

- Degrees of voluntary control - some behaviours are involuntary and have nothing to do with attitude;

- Minimal difference between objects can mean that a person holds positive attitudes towards multiple objects. As such the potential impact of a favourable attitude on behaviour is negated (Assael 1992; Engel et al 1993; Mowen & Minor 1998; Wilkie 1994; Peter & Olson 1999).

While these factors highlight situations in which the attitude-behaviour relationship may be compromised, they do not undermine the importance of the attitude concept. These factors simply serve to highlight those areas in which the attitude concept should not be applied, applied with caution or additional measures taken to ensure its validity. Moreover, most of the afore-mentioned attitudinal restrictions do not apply to retail centre patronage. For example;

- It is highly unlikely that an adult consumer would lack *direct experience* with retail centres;
- The regularity with which consumers shop negates the likelihood of prolonged *intervening time*;
- Because consumers must engage in some form of spatial search process in order to select a retail centre (Potter 1979), problems associated with *low involvement* and *irretrievable attitudes* are less likely to be relevant;
- As shopping is a learned, rather than instinctive behaviour this eliminates any potential problems caused by *lack of voluntary control*; and
- As consumer preference for the two retail forms lies at opposite ends of a continuum, with consumers preferring either shopping strips or shopping centres but not both (Howell & Rogers 1984) shoppers do *distinguish* between the two retail forms.

As a result, much of the criticism aimed at the attitudinal concept has been directed at the brand level, rather than the level of the retail centre (Foxall 1985). The major criticism of attitudinal research is its inability to predict behaviour. Hughes (1971) argued that this criticism is unjustified, because this inability to predict is due more to an absence of models that reflect the role of attitudes in decision making, than the actual attitudinal measures employed. In response, researchers have devised several retail patronage models linking consumer psychological states, retail attributes and patronage (Monroe & Guiltinan 1975; Howell & Rogers 1980; Peterson & Kerin 1983; Engel et al 1993; Shim & Eastlick 1998). Moreover, numerous studies have reported a positive relationship between attitude and patronage behaviour (Burnett 1973; Davies 1973; Doyle & Fenwick 1974-75; Cadwallader 1975; Stanley & Sewall 1976; Nevin & Houston 1980; Timmermans 1980; Gautschi 1981; Louviere & Meyer 1981; Korgaonkar 1985; Finn & Louviere 1996; Bell 1999; Erdem et al 1999).

In their research summaries of the attitude-behaviour relationship, Runyon and Stewart (1987), Assael (1992) and Wilkie (1994) all concluded that on the balance of findings, the link between attitude and patronage behaviour could be considered a valid one. In the absence of actual buying behaviour, attitudinal measures serve as the closest substitute in assessing the perceived attractiveness of retail facilities (Assael 1992). Subsequently, measures of patronage intentions such as attitude are often the best way to predict future patronage behaviour (Peter & Olson 1999).

Many scholars believe that the reason for the poor empirical link between attitudes and behaviour can be traced instead to poor research design. One review of thirty-three studies showing little relationship between attitude and behaviour, found that most of the studies had at least one methodological flaw (Wicker 1971). The inability of attitudes to accurately predict behaviour has been blamed on poorly conceived studies, inadequate methodology and the naiveté on the part of researchers (Runyon & Stewart 1987; Mowen & Minor 1998). Because attitudes are context specific (Quee 1999), they must be measured in a specific shopping context. This context serves as a frame of reference for the respondent. Research has identified several types of shopping, each providing a different behavioural context. These include;

- Essential shopping for food;
- Convenience shopping where time is valued more than price;
- Purposive shopping directed at the purchase of key products; and
- Leisure shopping (Dawson 1988).

Herrington and Capella (1995) also distinguish between various shopping contexts, but limit them to two mutually exclusive types of shopping. The first, obligatory shopping includes such items as food and toiletries that roughly equates to the first two types of shopping proposed by Dawson (1988). The second, discretionary shopping includes items such as clothing and appliances and roughly equates to Dawson's third and fourth types of shopping. As such, shopping behaviour occurs in two broad shopping contexts: shopping for lower-order or convenience goods and shopping for higher-order or shopping and specialty goods.

Retail studies have commonly used the purchase of shopping goods to specify the context in which the action is performed (Brooker-Gross 1980; Howell & Rogers 1980; Maronick & Stiff 1985; Finn & Louviere 1990; Oppewal et al 1997). This is presumably because the link between intentions and behaviour is closest when shopping for higher-order goods (Spence et al 1970 in Assael 1992). Measuring consumer attitudes towards convenience in the context of shopping for lower-order goods may be considered a redundant objective and prone to criticisms of researcher bias because retail literature already acknowledges that convenience serves as the primary criterion behind the purchase of lower-order goods (Assael 1992). By the same token however, the purchase of higher-order goods such as clothing is often linked with a recreational orientation (Bloch et al 1991; Dholakia 1999) creating a potential bias that may understate the importance of convenience.

Using the purchase of a single product as the shopping context is flawed because most shopping trips are multi-purpose, not single-purpose (Brown 1988). Multi-purpose shopping occurs when consumers purchase both higher and lower-order goods in a single trip. Research has consistently revealed the importance of multi-purpose shopping (Hanson 1980; McLafferty & Ghosh 1986; Ingene & Ghosh 1990). Blommestein et al (1980) noted that with multivariate shopping models, multi-purpose trips are often overlooked. Therefore by using multi-purpose shopping it not only provides an alternative to two shopping contexts that may either understate or exaggerate the importance of convenience, it also addresses the flaw that many preceding studies have made in ignoring a key form of shopping behaviour.

Attitudinal and behavioural entities consist of an action, the target at which the action is directed and the context in which the action is performed. All three elements must be taken into account because the attitude-behaviour relationship is only valid when the attitudinal predictor matches the behavioural criterion (Azjen & Fishbein 1977; Azjen 1993). If these elements are combined with the nature of the research problem then the research question can be expressed as: When consumers choose a retail centre (*action*) for the purpose of multi-purpose shopping (*context*), how important is convenience (*target*)?

4.5.4 The dependent variable: Retail Centre Patronage

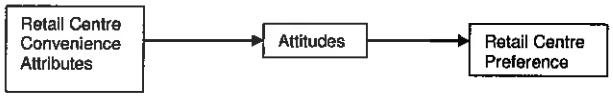
In retail studies, patronage is typically used to measure behaviour. However, patronage can be measured in several different ways. Of these, frequency of visit is most commonly used (Howell & Rogers 1980). This measure can prove misleading because a consumer may visit a facility, but not purchase anything. Several alternatives have been used instead to measure patronage, including:

- Purchase records (Schiffman et al 1977);
- Frequency of visit *and* money spent (Shim & Eastlick 1998); and
- Whether a retail facility was considered by consumers and its share of choice (Finn & Louviere 1996).

Dawson et al (1990, p 408) defined retail patronage as a long-term purchase relationship between the consumer and a specific retail facility. They propose that the creation of long-term patronage rests on both retail preference and choice that together represent retail outcomes. Spiggle and Sewall (1987) argue that although retail choice, patronage and preference are often used interchangeably, they refer to different behaviours. Retail choice results from a specific purchase task and refers to purchase from a particular retail facility. Patronage refers to consumers purchase behaviour over a series of purchases, and often results from loyalty to any one facility. Preference describes consumers attitudes towards a facility, which may or may not result in choice or patronage.

Although all three sub-components of patronage behaviour have been used to represent retail selection, retail centre preference provides the ideal dependant variable for this study. There are several reasons for this. Firstly, in acknowledgement of Spiggle and Sewall's definition, preference is used to measure consumers attitudes towards a retail facility (a major objective of this study). Secondly, in the absence of abnormal situational variables, it has been empirically proven that consumers can be expected to patronise their preferred retail centre (McCarthy 1980). The link between attitude and preference can also be considered to be more valid than the link between attitude and actual overt behaviour. The use of retail centre preference is also consistent with the contemporary view that attitudes are a mediating construct, rather than an absolute predictor of behaviour (Seeman 1993). In short, the dependent variable retail centre preference offers the same predictive capabilities as other patronage measures, but without the limiting assumption of a direct relationship between attitude and behaviour. Figure 4.4 summarises the relationship between the variables and constructs that will be used to measure the importance of retail centre convenience. Consistent with the measurement process, this method measures the objective (e.g. attributes) and subjective (e.g. attitudes) properties of retail centre preference.

Figure 4.4 Measuring the importance of retail centre convenience



4.5.5 Evaluating indicators

As with the *attributes of retail centre convenience* scale, factor analysis was used to measure the reliability of the *importance of retail centre convenience* scale. The eighteen items were subjected to principal components analysis using SPSS. Prior to performing the analysis, the suitability of data for factor analysis was assessed. With a Kaiser-Meyer-Oklin value of .81, and the Bartlett's Test of Sphericity reaching statistical significance ($p < .001$), the data was deemed fit for factor analysis. A scree test and eigenvalues greater than 1 were both used to determine the number of factors to rotate.

Factor analysis revealed the presence of five constructs. These were rotated using a Varimax rotation procedure. The rotated solution as shown in table 4.5 yielded five interpretable factors. The first factor explained 26.6% of the variance and was labelled *spatial* attributes due to its four items of compact design, concentration, compact centre size and compatibility. The second factor explained 11.7% of the variance and incorporates the *access* attributes of speed limits, traffic lanes and traffic controls. The third factor explained 8.6% and was identical to the temporal convenience factor identified in the attributes of retail centre convenience scale.

Comprising items such as one-stop shopping, proximity to home and extended trading hours it was labelled *temporal* attributes. The fourth factor contained the items parking availability, parking proximity, public transport and parking type. It was therefore labelled *parking* attributes and accounted for 7.7% of the variance. As with the third factor, the fifth factor comprising shopping services, pedestrian areas and store visibility mirrored a factor from the attributes of retail centre convenience scale (the effort dimension). In accordance with this, this factor explaining 6.7% of the variance was labelled *effort* attributes.

Table 4.5 Rotated Component Matrix for the importance of attributes scale

Item	Construct1	Construct2	Construct3	Construct4	Construct5
Design	.802				
Concentration	.784				
Size	.753				
Compatibility	.709				
Speed Limits		.789			
Lane Number		.742			
Traffic Controls		.723			
One Stop Shopping			.816		
Proximity to Home/Work			.677		
Extended trading hours			.675		
Enclosure			.631		
Parking Availability				.772	
Parking Proximity				.755	
Public Transport				.673	
Parking Type		.432		.484	
Shopping Services					.738
Pedestrian Areas					.707
Store Visibility					.696
Eigenvalues	**4.78**	**2.10**	**1.56**	**1.38**	**1.20**
Cronbach Alpha Coefficient	**.81**	**.73**	**.71**	**.70**	**.62**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.

For the purpose of interpretation, each factor comprised variables that loaded .40 or higher on that factor. In the one instance where a variable loaded .40 or above on two factors (parking type) it was assigned to the factor where it had the highest loading (Malhotra et al 2002). The five-factor solution explained a total of 61.2% of the variance.

Based on the rational association of attributes contained within each loading, all five factors were regarded as representing a logical grouping of items. Cronbach's coefficient alpha was then used to test the reliability of the importance scale (Loewenthal 2001). All five factors – spatial (.82), access (.73), temporal (.71), parking (.70) and effort (.62) recorded reliable alpha scores. As such, the importance of convenience attributes scale was regarded as reliable.

While single-item scales are ideally suited to the research objective of determining attribute importance, it is difficult to establish effective measures to determine their reliability and validity (de Vaus 1995). An additional method of data collection was therefore utilised. Because the relationship between attitudes and behaviour is a contentious one, questions should also focus on overt behaviour (Wicker 1969). Such measures provide a test between positive attitudes and actual patronage behaviour. The advantage of this is that using behaviour to predict behaviour provides a more valid research method (Foxall 1985). An additional method of analysis was therefore used to measure the global importance of convenience and to establish whether a link existed between attitude and behaviour. Respondents were asked to indicate their most preferred, convenient and frequented retail form.

Answers to each of these questions can then be used to establish concurrent validity (Malhotra et al 1996; Zikmund 2000) and global attitudes (Mowen & Minor 1998).

If there is a link between attitude and behaviour, then consumers will patronise most frequently their preferred retail form. Similarly, the global importance of convenience can be measured by the extent to which respondents most convenient retail form is also their most preferred and frequented. The use of a global measure of convenience addresses a key criticism of the way in which the attitude concept is typically operationalised. Although an attitude is conceptualised as an overall impression, it is typically measured on an attribute-by-attribute basis. This approach fails to capture the essence of an attitude because it does not account for its abstract, gestalt nature (Keaveney & Hunt 1992).

Pearson Chi-square was used to determine whether there was any association between respondents most preferred retail form, their most frequented retail form and their perception of the most convenient retail form. Where an association was determined to exist, Lambda was used to measure the strength of the relationship. Lambda was preferred over Cramer's V due to its suitability to asymmetric data and greater ease of interpretation (Argyrous 1996; Kent 1999). The link between attitude and behaviour was confirmed by respondents tendency to patronise their preferred retail centre most frequently, χ^2 (4, $\underline{N}$ = 521) = 263, $\underline{p} < .001$. The strength of this relationship was moderate with a Lambda score of 0.46 (Stevens et al 1997) using *most frequented retail centre* as the dependent variable.

While a key objective of this study revolved around determining the salience of convenience, to avoid encouraging respondent bias only one scale directly measured its importance. Therefore the extent to which each respondent's most convenient retail form was also their most preferred, was included as a secondary measure of the salience of convenience. The importance of convenience was confirmed by consumers preference for the retail form perceived as most convenient, χ^2 (4, $\underline{N}$ = 520) = 334, $\underline{p} < .001$. The strength of this relationship was moderately high with a Lambda score of 0.58 using *most preferred retail form* as the dependent variable.

Moreover, consumers also showed a tendency to patronise most frequently the retail form perceived as being the most convenient, χ^2 (4, $\underline{N}$ = 527) = 192, $\underline{p} < .001$. However the strength of the relationship was only slight with a Lambda score of 0.32 using *most frequented retail form* as the dependent variable. It should also be noted that the supply-side analysis provides an additional means for evaluating the importance of convenience. It will compare shopping centres and shopping strips in terms of the salient attributes identified by the demand-side analysis of consumer attitudes. In doing so it seeks to confirm the importance of convenience by determining whether the most preferred retail form is also the most convenient.

4.6 ETHICS AND INFORMATION CONFIDENTIALITY

All research projects conducted at Monash University involving human subjects must obtain the approval of the Standing Committee on Ethics in Research on Humans (SCERH). The project (2002/218) was approved on May 29th, 2002 by SCERH based on the submission of the background and aims of the research, the sampling methodology, method of data collection, procedures for preserving confidentiality, the cover letter and questionnaire (Appendix C).

4.7 DATA CODING AND EDITING

Numerical codes were assigned to the vast majority of questions prior to the administration of the questionnaire. The three exceptions were patronage frequency, and respondents age and postcode. Rather than use a close-ended question to measure patronage frequency, the question was designed to satisfy a necessary pre-requisite for the use of the attitudinal concept by establishing direct experience with the attitude object (Engel et al 1993). This meant using two open-ended questions to establish the degree to which respondents frequented each form of retail centre. Moreover, as these questions appeared at the beginning of the questionnaire, they offered the advantage of creating the perception that its completion would be a straightforward task. Responses to these questions were later recoded into one of three nominal categories; (1) shopping strip most frequented; (2) shopping centre most frequented; and (3) equal patronage.

The question relating to age was designed as an open-ended question for three key reasons. Firstly, it allowed respondents age to be recorded as an interval variable. Secondly, pre-determining the age groups to be used for coding may have resulted in unequal group sizes, thereby impacting upon inter-age group comparisons. By coding age after questionnaire administration, it was possible to create four groups of approximately equal size. Finally, by conserving space it preserved the four-page booklet format of the questionnaire. This minimises the possibility of detached and lost pages, makes it easier to move from page to page, it looks more professional (Dillon et al 1994) and enhances the perception that the questionnaire can be completed quickly.

Data relating to respondents postcode was collected in order to determine whether the meaning and importance of convenience varied according to location. Due to the fact that there were eighty-nine separate postcodes within the geographic sampling frame, postcodes were categorised into one of four geographic zones to simplify cross-comparisons. To do this it was necessary to code this variable after questionnaire administration.

Consistent with the need to avoid acquiescence bias, fourteen of the twenty-seven items used to measure the dimensions of shopping were negatively phrased. Consequently, prior to data analysis, these items were recoded into the same variable using SPSS version 10.0.

4.8 DATA ANALYSIS PROCEDURES

Several procedures were used to analyse the data for the purposes of addressing and answering the propositions, hypotheses and research questions of this study. One sample T-tests were used to examine the hypotheses relating to the attributes and dimensions of convenience. Independent sample T-tests and one-way ANOVA tests were used to determine whether the meaning and importance of convenience varies according to consumer characteristics. Due to the conflicting nature of attributes such as size, one-stop shopping, enclosure, visibility, pedestrian areas and direct-access parking, paired sample T-tests and within-groups ANOVA were used to measure their relative meaning and importance. One-way ANOVA tests and discriminant analysis were also used to determine whether the importance of attributes varies according to consumers retail centre preference. This information provided an important context for the supply-side analysis where the two retail forms were compared against salient attributes. Correlation coefficients were used to determine whether a relationship existed between the dimensions and attributes of convenience, and between the convenience of an attribute and its importance.

4.9 RESPONDENT PROFILES

Mail questionnaires were sent to a random sample of 1600 households within the greater Melbourne area. Of these 151 were undeliverable and 12 were ineligible due to factors such as missing data, late return and failure to meet selection criteria (one respondent was 15 years old and therefore failed to meet the *primary adult shopper criterion*). In all 541 useable questionnaires were received. This provided a response rate of 38%, a satisfactory rate for mail surveys (Cooper & Emory 1995). Five demographic variables were measured in the study. They were age, gender, residential location, education and income.

4.9.1 Age

While age was recorded as an interval measure, for the purpose of analysis it was predominantly treated as an ordinal measure by converting it into four categories; (1) 18-38 years old; (2) 39-50 years old; (3) 51-64 years old; and (4) 65 years and above. A comparison with Victorian census data reveals that on the whole the sample age is higher than that of the population age. For example, whereas 41% of the population is aged 18-38, just 25% of the sample falls within this category. For the 39-50 and 51-64 age groups, the proportion of the sample (28% and 22% respectively) corresponds more closely with that of the population (23% and 19% respectively). However, for the 65 and over age group, there is further evidence of an older sample, with 24% of participants falling within this category as compared to 17% for the population (Australian Bureau of Statistics 1998B).

4.9.2 Gender

Approximately 37% of participants were male and 63% female. This contrasts with census data showing that approximately 49% of the Victorian population is male and 51% female (Australian Bureau of Statistics1998B). However this is to be expected given that the questionnaires were directed to the primary adult shopper and that shopping is an activity still regarded by many as a predominantly female role (Evans et al 1996). When Shim and Eastlick (1998) directed their mail surveys to the primary adult shopper they also reported a predominance of female participants, with men making up just 33% of respondents.

4.9.3 Postcode

The random sample of greater Melbourne yielded eighty-nine separate postcodes. To simplify analysis these were divided into four categories. Using Hawthorn as the geographic centre, Melbourne was divided into four geographic zones – northeast, southeast, southwest and northwest. Each postcode was then allocated to its appropriate zone. By chance, this arbitrary division of zones created four distinct retail scenarios. The northeast zone contains one shopping strip and seven shopping centres, the southwest zone contains seven shopping strips and one shopping centre, and the northwest zone contains six shopping strips and three shopping centres. The fact that the southeast zone contains five shopping strips and six shopping centres suggests competitive parity. However, four of its shopping centres rank among the largest in Melbourne, while its three shopping strips rate amongst the smallest in the sample. This provided a scenario of one zone dominated by shopping strips (the southwest zone), one dominated by shopping centres (northeast) and two competitive zones. Of these, shopping strips hold an advantage in one (northwest) and shopping centres in the other (southeast).

While there was a consistent response rate across the northeast (34.3%) and southwest zones (34.7%), response rates were highest in the southeast zone (39%) and lowest in the northwest (27%). It is necessary however to distinguish between response rates and inclusion rates. As the sample was randomly drawn, the inclusion rate was not equal across the four zones. Twenty-five percent (25%) of responses originated from the northeast zone, 29% from the southeast, 27% from the southwest and 19% from the northwest. As such, the northwest zone was slightly under-represented in the sample.

4.9.4 Education

Direct comparisons between the highest educational level reached by the sample and the population are not possible. While efforts were made to utilise the same categories as those used in Victorian census data, two changes were necessary. Census data is restricted to the ages of 15 to 64 years of age. By including 15 to 17 year olds, it therefore includes elements outside this study's sampling frame. Hence the *still at school* census category was excluded. The categorisation method used in the census also failed to meet the criterion that all elements should fall within a category. Due to Victoria's large ethnic population (Australian Bureau of Statistics1998B), an additional category was included to allow for the possibility that some participants from less developed countries may have no formal education or primary school education only.

Participants in this study had substantially higher levels of education. Forty-six percent (46%) of respondents had attained a university degree or higher, as compared to 21% for the population. The percentage of the sample with vocational / TAFE qualifications (19%), or high school qualifications (22%) more closely resembled that of the population (19% and 18% respectively). Again, there was a substantial difference between the sample and the population in terms of having attained some high school education (9% and 37% respectively). Approximately 3% of the sample had no formal education, or had attended primary school only. To simplify analysis, these five categories were then reduced to three; (1) lower education: did not complete high school; (2) intermediate education (e.g. high school, TAFE or vocational graduate); and (3) higher education: (e.g. university graduate or higher).

4.9.5 Income

The income level of participants corresponds fairly closely with the average Victorian annual household income. Respondents were asked to indicate their annual household income according to one of six categories. These were later reduced to three categories; lower-income group (less than $40,000 per year), middle-income group ($40,000-$79,999) and upper-income group ($80,000 and above). Thirty-eight percent (38%) of those participants that provided an income estimate fall within the lower-income group compared to 35% of the population (Australian Bureau of Statistics1998B). For the middle-income group, 35% of participants fall within this category compared to 39% for the population. Finally, 27% of participants fall within the upper-income group compared to 26% of the population. Twelve percent (12%) of respondents declined to answer this question.

In summary, an analysis of the sample indicates the potential for some non-response bias, with 18-38 year olds, participants residing in the northwest and those less educated being under-represented in the final analysis.

4.10 SUMMARY

This chapter addressed the key issues regarding the research methodology used in the demand-side analysis. Particular emphasis was placed on the pre-testing of the questionnaire and the justification behind the questions and scales it contained. Discussion also focused on the methods used to identify and choose subjects, and the strategies employed to minimise their non-response. This was followed by the operationalisation of the major constructs. As there were no existing scales for defining retail centre convenience in terms of its six dimensions, coefficient alpha and exploratory factor analysis were employed to test the reliability of the new scales developed for this study. All six constructs demonstrated acceptable reliability. Because this study employs the attitudinal concept to determine the influence of retail centre attributes on consumer patronage behaviour, the specific steps taken to ensure the validity of the attitude-behaviour relationship were discussed. Chi-square tests were used to determine whether consumer attitudes predicted patronage behaviour. Results indicated significant relationships between respondents perceptions of the most convenient retail form and their most preferred and frequented retail form, and between their most preferred and most frequented retail form. The questionnaire utilised in the demand-side analysis was used to identify the salient attributes of retail centre convenience, against which shopping strips and shopping centres would be compared in the supply-side analysis. The following chapter outlines the research methodology for the supply-side analysis.

CHAPTER 5
RESEARCH METHODOLOGY FOR THE SUPPLY-SIDE ANALYSIS

5.1 INTRODUCTION

A primary objective of the demand-side analysis was to identify the salient convenience attributes of a retail centre. The objective of the supply-side analysis is to provide additional insight into the importance of retail centre convenience. A comparison of shopping strips and shopping centres against each of the salient attributes will supplement the demand-side analysis by revealing whether the most preferred retail form is also the most convenient.

5.2 SAMPLING FRAME

The greater Melbourne area served as the initial geographic sampling frame for this study. However the validity of the attitudinal concept is compromised when respondents do not have direct experience with the attitude object (Engel et al 1993). Because retail centre experience derives from retail centre patronage, and patronage is in turn influenced by proximity (Patricios 1979; Potter 1982), a smaller geographic sampling frame was utilised (section 4.3.3). This facilitated comparisons between the two phases of the study by maximising the likelihood that the same set of retail centres were used for both the demand-side and supply-side analyses. Due to its location within a large concentration of retail centres, Hawthorn was chosen as the centre for the geographic sampling frame. As the study included all community-level and regional-level retail centres within a fifteen-kilometre radius of Hawthorn, it effectively provided a census of major retail centres within this geographic area. In all, the supply-side analysis included nineteen shopping strips and seventeen shopping centres. Personal visits were made to all thirty-six retail centres to collect data on each of the salient attributes identified in the demand-side analysis. While the unique nature of the attributes required a separate method of analysis for each, there is one method that applied to several attributes: the classification of businesses.

5.3 CLASSIFICATION OF BUSINESSES

Each business was categorised according to the type of goods it sold (Brown 1986). Despite its popularity, there is no universally accepted academic method for classifying businesses by this method. A review of several studies revealed a great diversity in the number and type of categories used (e.g. Clark 1967; Johnston & Rimmer 1969; Abratt, Fourie & Pitt 1985; Morrill 1987). For the purpose of this study an original system for categorising each business function was devised. There were two reasons for this. Firstly, previous studies are now dated and therefore fail to include many contemporary functions such as video rentals, mobile telephones and Internet cafes. Secondly, these earlier studies focused on the composition of retail centres. A system was needed that not only distinguished between functions in terms of their drawing power but their influence over consumers intra-centre spatial behaviour as well. For the purpose of this study every function within the thirty-six retail centres was classified into one of the following eleven categories:

1. Department and Discount Department Stores;
2. Supermarkets;
3. Food Stores and Health (e.g. butchers, bakers, grocers, chemists);
4. Food Service (cafes, fast food outlets, restaurants);
5. Homeware (e.g. furniture, carpet, curtains, electrical goods);

6. Hardware, Industrial and Automotive supplies (e.g. plumbing supplies, gardening, automotive repairs, petrol station);
7. Fashion (e.g. women's' apparel, shoes, lingerie, jewellery);
8. Leisure Products (e.g. books, photography, toys, music, giftware, camping, bicycles);
9. Professional Services (e.g. banks, insurance, accountants, medical services);
10. Consumer Services (e.g. beauty salons, electrical repairs, locksmith etc);
11. Community Services (e.g. municipal offices, sport centres and welfare services);

Businesses falling within categories one to eight were classified as retail functions, while those falling within categories nine to eleven were classified as non-retail functions.

5.4 ONE-STOP SHOPPING

One-stop shopping implies that all but the most esoteric of shopping needs can be satisfied in the one centre, all at the one time (Kaufman 1996). There is a distinct lack of research available on what functions are necessary in order to provide for one-stop shopping. One view holds that a retail centre must be able to fulfil *all* consumer needs in order to provide one-stop shopping (Smith 1956). However, the tenant-mix needed to support this definition would inevitably equate to retail mass, bringing with it potential inconveniences such as traffic congestion and increased walking distances between stores. It was therefore necessary to develop a list of functions that would be capable of satisfying *all but the most esoteric of shopping needs*. This criterion implies that the list must have generic appeal and should therefore be based upon consumer preferences for each function. For this purpose, Bruwer's (1997) composite tenant preference index was used as the basis for identifying consumers' most preferred tenants. The list was limited to the ten most popular tenants in order to ensure its generic appeal. These tenants were then used to identify the functions necessary to provide for one-stop shopping. Medical services, which ranked seventh in the index, were not included on the basis that a trip to a medical practitioner often represents a separate visit in its own right (Sim & Way 1989), and is therefore not essential to one-stop shopping. Cafes, which ranked eleventh, were elevated into the final list in their place. Supermarkets were also added to the final list due to their drawing power and popularity as an anchor tenant (Kaufman 1996; Bruwer 1997).

This resulted in the following list of functions; (1) supermarket; (2) bakery; (3) butcher; (4) café; (5) bank; (6) chemist; (7) women's clothing; (8) men's clothing; (9) shoes; (10) books; and (11) sporting goods. Major department stores and supermarkets were used as replacement functions in the absence of specific stores. For example, a retail centre containing a supermarket but no grocer, still offers the potential for one-stop shopping because a supermarket also sells fruit and vegetables. Major department stores fulfilled a similar role with books and sporting goods. Such an occurrence is noted by the symbol "*" (refer tables 7.5 and 7.6 of chapter 7). This same symbol was also used to denote the presence of automatic teller machines substituting for a bank. While the list comprises several diverse shopping functions, consumers' propensity for multi-purpose shopping indicates they will purchase a variety of goods in the same trip in order to save time and effort (Mulligan 1984).

Analysis of the ability of shopping strips to provide for one-stop shopping did not include the tenant-mix of in-town shopping centres. To combine the tenant-mixes would assume customer interchange between the two retail forms. Due to the

potential impact of the 'fortress effect' however, such an assumption may not prove valid. According to Lorch and Smith (1993), the advantages of the in-town shopping centre can encourage consumers to limit their shopping to its confines thereby creating a fortress effect whereby the surrounding shopping strip is ignored. Therefore, in spite of their geographic proximity, shopping strips and in-town shopping centres were treated as separate retail options.

5.5 TRADING HOURS

Data on the trading hours of shopping centres were gathered via the shoppers maps made available at the information desk or centre manager's office of each shopping centre. For shopping strips, this information was obtained from the trading hours typically posted at the entrance of individual stores. With the exception of supermarkets, these trading hours were typically uniform.

5.6 ENCLOSURE

From a statistical perspective, the obvious means for determining the importance of enclosure is to compare shopping strips and shopping centres against some statistical measure of retail performance. All seventeen shopping centres are enclosed and all nineteen shopping strips are, for the most part, open-air structures. The problem lies in the fact that enclosure is only one of many attributes that set the shopping centre and the shopping strip apart. Greater statistical insight can be gleaned instead by comparing the enclosed and open-air sectors of the shopping strip. Due to the absence of sales data, basic measures of economic blight such as vacancy levels and retail composition were used as comparison points (Berry 1963). If for example, vacancy levels in the open-air sectors of the shopping strip were higher than in its enclosed sectors, this would suggest that enclosure exerts a positive influence over intra-centre shopping strip behaviour, thereby advocating its importance.

The shopping strip offers two basic forms of enclosure: the arcade and the skywalk. An arcade is a covered pedestrian way typically used to link busy thoroughfares. It has shops on either side, and is characterised by a narrow width that provides space for shoppers but not cars (Northen & Haskell 1977). A skywalk is a network of elevated interconnecting pedestrian walkways that offer climate control (Robertson 1988). There were no skywalks in the geographic sampling frame.

5.7 PROXIMITY

Proximity is defined as the distance of a retail centre from a place of home or work. At the level of the individual consumer, it is a relative measure in that the distance between home and a retail centre varies according to where each individual resides. It is possible however to operationalise this construct at a more general level. The greater the population density surrounding the centre, the closer it is to a larger proportion of the residential population. Proximity to consumer households was therefore measured by examining each retail centre's location in the context of population density statistics for the geographic sampling frame. Proximity to consumers place of work was only measured for shopping centres. Shopping strips at the community and regional level serve as major employment centres and therefore their proximity to a large working population is ensured. The proximity of shopping centres to a large working population will be measured in terms of the number located within shopping strips.

5.8 PEDESTRIAN AREAS

As with enclosure, the provision of pedestrian areas is only one of many attributes that potentially set the shopping centre and the shopping strip apart. The importance of this attribute will therefore be measured by comparing the pedestrian and non-pedestrian areas of shopping strips using measures of economic blight such as vacancy levels and retail composition (Berry 1963).

5.9 STORE VISIBILITY

A personal visit was made to each shopping centre and shopping strip (due to enclosed structures such as arcades), to determine what percentage of stores is externally visible from the major access routes to the retail centre.

5.10 SHOPPING SERVICES

A list of customer services was generated from a review of retail literature. Personal visits were then made to each centre and any additional services added to the list. This resulted in the following list of sixteen services and amenities; (1) complimentary wheel chair, pram and electric scooter hire; (2) disabled amenities; (3) courtesy bus; (4) baby change stations; (5) bus/taxi ranks located immediately outside exits; (6) food courts; (7) lost and found service; (8) gift vouchers; (9) special parking; (10) information desks; (11) other information services (e.g. websites, email, customer service phones etc); (12) first aid service; (13) free gift wrapping; (14) free taxi booking service; (15) child minding service; and (16) storage / coat check service. This was then used as a checklist against which the services offered by each retail centre were recorded. In the case of shopping centres, shopper directories also supplemented information on customer services.

5.11 PUBLIC TRANSPORT

Data on the accessibility of each retail centre by public transport was collected as part of the retail audit and supplemented by consulting Melway street directories detailing the public transport routes servicing each centre. The three primary methods of public transport used for shopping were prioritised according to consumer preference. The bus serves as the most preferred means of public transport for 50% of Melbourne shoppers' followed by the tram with 29% of the preference and the train with 21% (McLennan 2000). The ease with which a retail centre can be reached is also a function of the number of public transport routes serving it. The accessibility of retail centres by public transport was therefore assessed according to these two criteria.

5.12 PARKING AVAILABILITY

Although parking opportunities were defined in the demand-side analysis in terms of an abundance of parking places, a more objective measure had to be adopted for the supply-side analysis in order to compare the two retail forms. Consistent with previous studies, the availability of parking was measured by expressing the total parking area as a percentage of the delimited area of each retail centre (Burt & Sparks 1991; Howard 1992). The total area of both parking facilities and the retail centre itself were measured via a pedometer. The accuracy of these measurements was then cross-checked with scale maps of retail centre provided in Melway street directories. Due to the potential impact of the 'fortress effect' (Lorch & Smith 1993), the percentage of space dedicated to parking in in-town shopping centres was not included in the overall figure for the surrounding shopping strip.

5.13 PARKING PROXIMITY

Parking proximity for the shopping strip was determined by calculating the percentage of the total area dedicated to parking that fell within each of three zones; core, intermediate and peripheral (refer section 5.18). The greater the percentage of parking space located in the core zone, the closer the distance between parking and overall shopping opportunities. It was not necessary to determine parking proximity for the seventeen shopping centres. All seventeen have an enclosed design, with stores that are oriented inwards. Shopping centre patrons must park in external car parks and then walk through a limited number of entrance points to reach store entrances. As such, each shopping centre only offers peripheral parking opportunities.

5.14 PARKING TYPE

Data on the type of parking provided by each retail centre was collected as part of the retail audit. The type of parking was classified into three categories: parking lot, curbside parallel parking and curbside diagonal parking.

5.15 SPEED LIMITS, TRAFFIC CONTROLS AND THE NUMBER OF LANES

Personal visits were made to each centre to gather data on these three attributes. Data on the method and number of traffic controls utilised by shopping strips was also supplemented by consulting Melway street directories.

5.16 DESIGN AND SIZE

Although pre-testing had revealed that individuals experienced difficulties in accurately conceptualising retail centres in two-dimensional form, this method was retained for operationalising retail centre size. This was on the assumption that the demand-side analysis would determine respondents attitudes towards walking longer distances while the supply-side analysis would determine the distance they must walk utilising two-dimensional measures.

The physical dimensions of each retail centre would also be used to determine whether a retail centre possessed a compact design. As part of the demand-side analysis, the questionnaire will measure which of two retail centre designs (compact or linear) consumers prefer most. The supply-side analysis will then use this finding to establish what percentage of shopping strips and shopping centres possess the design most preferred by consumers.

5.17 COMPATIBILITY

Compatibility refers to the degree to which two or more businesses interchange customers (Nelson 1958). As the degree of interchange is dependent upon the distance between stores, it is a function of space. The closer compatible stores are located together, the greater the likelihood of customer interchange. Compatibility can therefore be operationalised by measuring the distance between compatible stores.

Given the single-nature purpose of comparison-shopping it was not possible to use a multi-purpose shopping context as a means for choosing which categories should be measured. Multi-purpose shopping can include visits to any combination of stores. Analysis was therefore limited to two of the eleven categories empirically recognised for their high degree of customer interchange: *fashion* and *food sales* (Brown 1987; Morill 1987). They also represent ideal examples of the two types of

compatibility. For two businesses to be deemed compatible, they can sell shopping goods for which the consumer prefers to compare price and quality such as clothing or complementary goods such as a variety of foods (Eaton & Lipsey 1979).

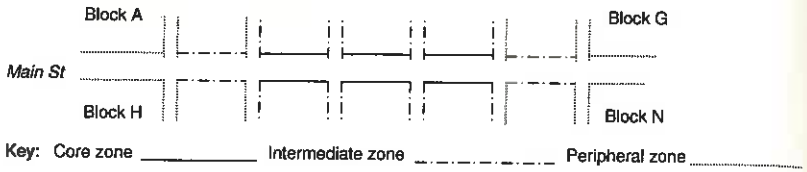
The location of stores from each of these two categories was plotted on a map of each retail centre. Consistent with the differing nature of the two categories, variations had to be made in how each was measured. Due to the wide variety of fashion stores, analysis was limited to women's clothing stores based on a similar method by Getis and Getis (1968). Because women's clothing is likely to serve as a high involvement purchase, consumers will place greater emphasis on information search and evaluation of alternatives during the decision-making process. They are therefore more likely to visit multiple stores (Brown 1988). To reflect this, the measure of compatibility was determined as the linear distance required to visit the most compact cluster of four women's clothing stores in each retail centre. This figure of four was arbitrarily chosen due to the absence of any relevant literature.

Given the low-involvement nature of food shopping, consumers are less likely to visit multiple stores of the same kind. However, due to the convenience-oriented nature of food shopping, consumers may visit multiple food stores of differing kinds. For this reason, the measure of compatibility for food shopping was defined in terms of the shortest distance necessary to visit a supermarket, butcher, baker and grocer.

5.18 CONCENTRATION

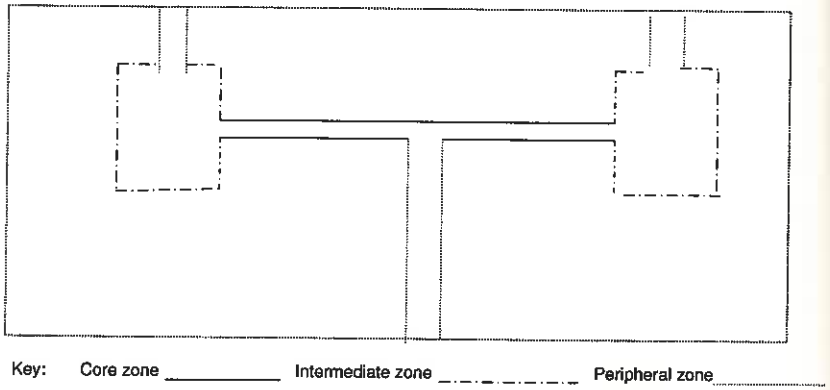
After plotting the location of each business on a map of the retail centre, the centre was divided into core, intermediate and peripheral zones. Similar methods of division have been utilised by Kelley (1955), Scott (1959) and Whysall (1989) in denoting the retail structure of the shopping strip. These earlier studies divided the nucleated design of a central business district into three concentric zones: the inner circle representing the core, the middle circle representing the intermediate zone and the outer circle the periphery. Such a method could not be directly applied in this study due to the linear design that characterises Melbourne's shopping strips. A key characteristic of the linear shopping strip is that in pursuit of high traffic locations, retailers will position themselves along major arterials (Boal & Johnson 1968). As a result, there will be little extension of the shopping area into streets perpendicular to the linear shopping strip (Berman & Evans 1992). The use of concentric circles would therefore fail to take into account retailer's spatial needs in a linear environment. Instead, the shopping strip was divided into three zones of approximately equal size, by dividing the number of blocks lining the delimited shopping strip by three (the number of zones). For example, in a shopping strip extending six blocks along one side of an arterial, the two inner blocks would be designated as core zones, the blocks either side of the core would be designated as intermediate zones, and the two outer blocks as the periphery. A typical division of a shopping strip is shown in figure 5.1.

Figure 5.1 A typical division of zones in a shopping strip



Despite operating on a smaller scale, these zones also apply to shopping centres. One in every five businesses located within Melbourne's shopping centres offers a non-retail function (Reimers & Clulow 2002). To ensure that non-retail functions do not disrupt pedestrian flow, they are typically allocated external positions, or located near entrances. Whereas such positions serve as the 'periphery' in a shopping centre, its central mall serves as its core. It is here, through the strategic placement of entrances and anchor stores, that pedestrian flow is focused. A typical division of a shopping centre is shown in figure 5.2.

Figure 5.2 A typical division of zones in a shopping centre



It naturally stands that the most geographically compact area within a retail centre will be its core. The core however, is an area of finite space and therefore priority must be given to certain retail functions when allocating core locations. In order to provide spatial convenience, the core must consist of functions capable of satisfying all but the most esoteric of shopping needs. It must therefore contain those functions that serve as key attractors and are most desired by consumers. It must also satisfy other principles of spatial convenience such as multi-purpose shopping and store compatibility. These factors served as the key criterion in devising the method of analysis for this attribute. Other factors also influenced the methodology. The success of a retail centre has as much to do with the performance of its individual retailers, as it does with satisfying the needs of its customers. As a key pre-requisite for retail success is store location (Mason & Mayer 1990), retailers' spatial needs also influenced the methodology.

5.18.1 Department store

The department store has long served as a key attractor (Applebaum & Kaylin 1974; Alexander & Muhlebach 1992; Mees 1993; Eppli & Benjamin 1994; Finn & Louviere 1996). While this would suggest a core location, the number of anchors often determines its position within a shopping centre. When there are two anchors, department stores are often placed in intermediate locations at either end of the mall. It was therefore allocated dual zones, core and intermediate.

5.18.2 Supermarket

The supermarket also serves as a key attractor (Bruwer 1997) and is often patronised in the course of a multi-purpose shopping trip (Kaufman 1996). As with the department store however, its position within a shopping centre is determined by other factors. The supermarket is often assigned an intermediate location with external access due to its extended trading hours and the necessity for easy carriage of bulk purchases to the car park.

Locating a supermarket anywhere within a shopping strip is difficult due to high land costs and fragmented ownership (Nayga & Weinberg 1999). This in combination with the importance of easy access (Horton 1968) and the dead frontage it can provide suggests that an intermediate location is ideal. However in response to high land costs, many urban supermarkets have inadvertently resolved this latter problem by adopting a deep design that minimises store frontage. Therefore its broad appeal (Bruwer 1997) and role as shopping strip anchor also make a core location desirable. It was therefore defined as a core and intermediate function in both shopping centres and shopping strips.

5.18.3 Food Stores

The core has been defined as a location restricted to higher-order activities such as shopping goods (Davies & Rogers 1984; Berry & Parr 1988). Lower-order activities such as convenience goods are not often suited to the core due to their inability to afford the higher rents, and their need for easy access (Rogers 1969). They also require an intercepting location between retail generators and consumer sources such as a car park or an office precinct. This suggests that the intermediate zone is the ideal location for food stores (Nelson 1958).

Food stores however, also attract both quantity and regularity of consumers (Brown 1987), and often act as key attractors (Bruwer 1997), particularly when located in compatible clusters (Johnston & Kissling 1971; Morrill 1987). Furthermore, the convenience of multi-purpose shopping (O'Kelly 1983; Ingene & Ghosh 1990) is enhanced when both higher- and lower-order goods are concentrated in the core. Due to the conjecture as to their ideal location, food sales were allocated a dual classification. This was not the case in shopping centres however, where their wealth of key attractors and the need for consumers to carry bulk purchases to remote parking locations, dictated an intermediate location.

5.18.4 Food Service

The shopping centre's food service providers typically cluster together in food courts (Reimers & Clulow 2003). These are often located in an intermediate area off the mall, where they provide a social focal point and a convenient break for shoppers. Restaurants should be located on the periphery so that they can remain open outside the shopping centres normal trading hours.

Despite offering the same general function, cafes, fast food outlets and restaurants cater to different spatial needs in a shopping strip. Cafes were assigned to the core on the basis of their regular traffic flow (Brown 1987) and popularity with consumers (Bruwer 1997). In this position they can intercept shoppers (Nelson 1958) and perform the equivalent role of the shopping centre's food court, creating a mood congenial to purchasing (Brown 1987). Fast food outlets are best suited to an intermediate location due to the limited business they generate outside lunchtime peak hours and the negative impact they can have upon the image of a retail centre (Green 1968; Kivell & Doidge 1992). As the restaurant remains closed during normal trading hours, it serves as dead shopping space. Its compatibility with other peripheral functions such as a cinema (Scott 1959) and its incompatibility with retail functions such as fashion (Lagerfeld 1995), means that the restaurant is best suited to the periphery.

5.18.5 Homeware and Hardware/Industrial/Automotive functions

While many of these businesses have adopted freestanding arterial locations, many others remain in retail centres in order to capitalise upon their drawing power (Garner 1966). As the vast majority of these are infrequently purchased, single-purpose functions, they are not suited to a shopping environment (West et al 1985) such as the core. Their compatibility, self-generative nature, limited reliance upon impulse buying (Sim & Way 1989), large land requirements (Morrill 1987), and high survival rates (Star & Massell 1981) means that if they are to be located in a retail centre, it should be in an intermediate or peripheral location.

5.18.6 Fashion

Several factors necessitate a core location for fashion retailers. These include; (1) they serve as key attractors (Bloch et al 1991; Bruwer 1997; Dholakia 1999); (2) success often depends upon a core location; (3) concentrating fashion stores in the core facilitates store compatibility and therefore comparison-shopping; and (4) they are among the highest level retail comparison goods (Nelson 1958; Scott 1959; Morrill 1987).

5.18.7 Leisure products

The broad nature of this category means that it is necessary to further divide it into functions that are likely to offer broad appeal (e.g. shopping goods) and those offering only esoteric appeal (e.g. specialty goods). Shopping goods were classified as core functions and included books, giftware and music (Bruwer 1997). Those functions catering to specialist needs were deemed intermediate functions (e.g. stamps, coins).

5.18.8 Professional, Consumer and Community Services

Several factors identify the periphery as the ideal location for non-retail functions. These include; (1) the consumption of services is irregular; (2) location is not critical because patronage is planned rather than impulsive; (3) many rely on other peripheral functions for their business; (4) their dead retail frontage discourages window shopping; (5) many have only a loose association with shopping, with many trips to non-retail functions originating directly from home; and (6) they are typically the least patronised outlets (Gruen & Smith 1960; Hanson 1980; Brown 1987; 1991; 1992; Kivell & Doidge 1992).

There are however some exceptions. For example, in a shopping strip, banks are often treated as core functions (Nelson 1958; Hansen & Weinberg 1977) due to their linkages with retailing (Brown 1987; Jones & Simmons 1990; Leistritz, Ayres & Stone 1992) and popularity with shoppers (Bruwer 1997). Similarly, post offices provide a core function by acting as one-stop service destinations for mail, bill paying and banking. Certain grooming functions such as hairdressing, beauty salons, dry cleaning and shoe repairs are regarded as intermediate functions due to their association with fashion, and their subsequent need for proximity to the core. For this same reason, optometrists (a professional service) carrying fashion sunglasses were also treated as an intermediate function.

Tables 5.1 and 5.2 summarise the 'ideal' location of each function according to a review of literature. Differences in tenant-mix and enclosure make it necessary to devise separate tables for shopping centres and shopping strips. For example, compared to the shopping centre, Melbourne's shopping strips possess fewer key attractors (Reimers & Clulow 2002), and so categories such as food sales, cafes and banks assume increased importance in a shopping strip. In contrast, food sales are ill suited to the core of a shopping centre, where due to enclosure consumers are forced to carry bulk purchases some distance to the parking lot.

Table 5.1 Classification of categories for the shopping strip

Core Zone	*Intermediate Zone*	*Peripheral Zone*
Department Stores Supermarkets Fashion Stores Leisure products (shopping) Food Sales and Health Food Service - cafe Professional Services (banks) Community Service (post office)	Supermarkets Food Sales and Health Food Service - fast food Leisure products (specialty) Homeware Professional services (travel agents, optometrists) Consumer services (hair salon, shoe repairs)	Community services Consumer services Food Service - restaurant Hardware/Industrial/Garden Professional services

Table 5.2 Classification of categories for the shopping centre

Core Zone	*Intermediate Zone*	*Peripheral Zone*
Department Stores Supermarkets Fashion Stores Leisure products (shopping)	Department Stores Supermarkets Food Sales and Health Food Service Leisure products (specialty) Homeware	Community services Consumer services Food Service - restaurant Hardware/Industrial/Garden Professional services

The creation of a compact retail core dominated by stores is an important prerequisite for spatial convenience. If however the fringe of a retail centre also contains a high proportion of stores, the consumer may still be required to travel the length of the centre to complete their shopping. The level of intra-centre spatial convenience can therefore be measured by addressing the following questions:

1. What proportion of firms in each of the thirty-six shopping strips and shopping centres are ideally located?
2. What is the composition of the three zones? Are zones dominated by their ideal retail category? A high proportion of retailers in the core implies spatial convenience, as does a low proportion on the periphery.

For the first measure a concentration score will be used to indicate the proportion of firms that are ideally located. In essence, this score represents the percentage of businesses that are located in their ideal zone. To determine this score, the location of each business will be compared with its ideal location (tables 5.1 and 5.2). The number of businesses that are "correctly" located will then be expressed as a percentage of the total number of firms in a retail centre. The higher the percentage, the greater the convenience afforded by the spatial juxta-positioning of businesses in a retail centre.

In calculating the concentration score, a distinction was drawn between those firms with ground floor locations and those occupying upper levels or off-street locations. For example, a travel agent with an upper level office in a core sector was classified as a non-core location because it did not infringe upon ground level store frontage. If the travel agent was located in a shopping arcade running off a core sector, it was deemed an intermediate location. The table was also modified according to store characteristics. For example, although a homeware store is classified as an intermediate function, if it were a category killer it would be treated as a core function. Conversely, a second hand fashion store would be classified as an intermediate function.

5.19 SUMMARY

This chapter addressed the key issues regarding the research methodology used in the supply-side analysis. Due to their unique nature it was often necessary to develop separate methods of analysis for many of the attributes. Moreover, because of the original nature of the research, many of these methods could not be drawn directly from existing studies. However in the case of attributes such as one-stop shopping, parking availability and concentration, the methods employed were based on a review of literature. For the remaining attributes, the wording of the attitude scale employed in the demand-side analysis was used to operationalise the construct in the supply-side analysis. In doing so, it facilitates consistent comparisons between consumers' attitude towards an attribute and its actual provision by the two retail forms. One of the key objectives of chapter 6 was to identify the salient attributes of retail centre convenience against which shopping strips and shopping centres were compared.

CHAPTER 6
A DEMAND-SIDE ANALYSIS OF THE MEANING AND IMPORTANCE OF RETAIL CENTRE CONVENIENCE

6.1 INTRODUCTION

This chapter investigates the way in which consumers define retail centre convenience and the importance they assign to it. It is divided into three sections. In Section B analysis begins by determining how consumers define retail centre convenience in terms of its dimensions. Analysis will then progress to measuring consumer beliefs towards the attributes of a retail centre that by influencing these dimensions, determine its convenience. As part of the process of investigating consumer beliefs towards the dimensions and attributes of retail centre convenience, it is also necessary to determine the consistency of these beliefs. Section B addresses the following research questions and propositions:

Research Question 1: How do consumers define retail centre convenience?

Proposition 1: Retail centre convenience comprises dimensions that represent the non-financial costs of patronising a retail centre.

Proposition 2: Retail centre convenience comprises attributes that determine the non-financial costs of patronising a retail centre.

Research Question 2: Do the dimensions of retail centre convenience differ across demographic and behavioural variables?

Research Question 3: Do the attributes of retail centre convenience differ across demographic and behavioural variables?

Section C examines the importance of convenience relative to other strategies that have often served as preferred alternatives in retail centre design and rejuvenation. This is followed by an examination of the importance of each convenience attribute in influencing retail centre preference. As part of this overall process, analysis will also seek to determine whether consumer attitudes towards the salience of convenience are consistent across demographic and behavioural variables. Section C addresses the following research questions;

Research Question 4: How important is retail centre convenience in influencing retail centre preference?

Research Question 5: Is the importance of retail centre convenience consistent across demographic and behavioural variables?

Before these questions and propositions can be addressed some preliminary analysis is necessary. This serves as the focus of Section A. Retail centre preference must first be determined because it serves as the behavioural variable used to test for differences in beliefs and attitudes. In order to determine whether a relationship exists between the most convenient retail form and the most preferred retail form, it must also be determined which is perceived as offering the greatest convenience.

SECTION 6A: PRELIMINARY ANALYSIS

6.2 SHOPPING PREFERENCE, FREQUENCY AND CONVENIENCE

6.2.1 Retail centre preference

Respondents preference for shopping strips (44.3%) and shopping centres (44.7%) was almost identical, with a further 11% holding no specific preference. This corresponds with recent survey findings that Australians are evenly divided in their preference between the two retail forms (KPMG 1999; Honeywill 2001). It is also consistent with Howell and Roger's (1980) proposition that consumer patronage decisions between shopping strips and shopping centres lay at opposite ends of a preference map, with consumers typically preferring one retail form but not both.

6.2.2 Most frequented retail centre

Despite the even preference between the two retail forms, shopping strips are the most frequented of the two. Fifty-seven percent (57%) of respondents patronise shopping strips most often, compared to 33% for shopping centres. Ten percent (10%) of respondents share their patronage equally between the two. For the vast majority of respondents (69%) the shopping strip is patronised at least once a week (table 6.1). While 31% of respondents visit shopping centres once per week, a similar number (33%) visit no more than once a month.

Table 6.1 Consumer shopping frequency to the two retail forms

Retail form	Never	1/mth	2-3/mth	1/wk	>1/wk	Total (N=528)
Shopping strip	7	9	15	33	36	100
Shopping centre	12	21	18	31	18	100

Analysis of trip behaviour by retail centre preference offers interesting insight into the nature of the competition between the two retail forms (table 6.2). The vast majority of those that prefer shopping strips (SSP) visit them at least once per week (93%). Similarly, 78% of those that prefer shopping centres (SCP) visit them at least weekly. While shoppers with no particular preference (NPP) exhibit a greater tendency to patronise both retail forms, the majority (74%) still make more weekly trips to shopping strips then shopping centres (48%). The attitude of SSP appears to have the greatest influence over their patronage behaviour. Approximately one in four SSP (24%) do not patronise shopping centres, and only 18% will visit one at least once a week. In contrast, while 17% of SCP do not patronise shopping strips at all, 44% still visit their less preferred option at least weekly. This may be due to the proximity of shopping strips to a relatively large employment base, which serves as an important determinant of where consumers shop due to their propensity for multi-purpose trip behaviour (Hanson 1980).

Table 6.2 Consumer shopping frequency to the two retail forms by retail centre preference

	Shopping strip visits (%)					Shopping centre visits (%)				
Preference	Never	1/mth	2-3/mth	1/wk	>1/wk	Never	1/mth	2-3/mth	1/wk	>1/wk
SSP	0	2	5	39	54	24	35	23	12	6
SCP	17	14	25	26	18	0	7	15	45	33
NPP	0	13	13	44	30	11	23	18	41	7

6.2.3 Most Convenient Retail Centre

In response to the question as to which of the two retail forms on the whole make shopping most convenient, the majority of respondents (52%) opted for shopping centres. Only 36% of respondents regard the shopping strip as the more convenient, with a further 12% of respondents undecided. This finding has important implications for the supply-side analysis where the convenience of the two retail forms will be compared. Drawing comparisons with other recent studies provides limited insight because they offer only anecdotal evidence, and this is divided between shopping centres (Carlson 1990) and shopping strips (Cavanaugh 1996). The findings from section 4.5.5 provided preliminary insight into the importance of convenience by establishing that a link exists between retail centre preference and respondents' beliefs about which retail form is most convenient. Further evidence of this is provided by a cross-tabulation analysis (table 6.3). Seventy-one percent (71%) of SSP believe shopping strips are the most convenient retail form, while 88% of SCP perceive shopping centres as most convenient.

Table 6.3 Perception of most convenient retail form by retail centre preference

Preference	SS's most convenient	SC's most convenient	Equally convenient	Total (N=528)
SSP	71%	20%	9%	100
SCP	8%	88%	4%	100
NPP	21%	27%	52%	100

Significantly, approximately one half of all NPP (52%) believe that neither retail form holds an advantage in terms of convenience, while the other half is relatively evenly divided in their beliefs (21% and 27% respectively). This suggests that either retail form could attract NPP shoppers by achieving differential advantage in the provision of shopping convenience.

SECTION 6B: THE MEANING OF RETAIL CENTRE CONVENIENCE

6.3 THE DIMENSIONS OF RETAIL CENTRE CONVENIENCE

6.3.1 Data Analysis Procedures

This section addresses Proposition 1 that *retail centre convenience comprises dimensions that represent the non-financial costs of patronising a centre.* A review of retail literature identified that convenience is regarded as consisting of as many as six dimensions. Only three of these however are consistent with its cost-minimising nature. It was hypothesised that retail centre convenience consists of temporal, spatial and effort dimensions, all of which represent the non-financial costs of patronising a retail centre. These hypotheses will be examined via one-sample T-tests to evaluate whether their mean is significantly different from the hypothesised mean. The value of the hypothesised mean was set according to the distribution of the variable. Where the variable was normally distributed, the value of the hypothesised mean was set at four, the mid-point of the Likert scale representing a neutral attitude towards the convenience of the dimension. In this circumstance, any score above four indicates the belief that the dimension influences retail centre convenience. Because the scale for the social dimension was positively skewed, the value of the hypothesised mean was set at greater than or equal to three. While adopting a less stringent standard created greater potential for accepting a null hypothesis when it is false (a type 2 error), it was counter-balanced by the fact that in deleting outliers, the belief score for this attribute had decreased slightly.

This section also addresses Research Question 1: *Do the dimensions of retail centre convenience differ across demographic and behavioural variables?* Independent-samples T-tests were used to determine whether statistically significant differences exist between the beliefs of males and females. One-way ANOVA tests were used to determine whether beliefs about the dimensions of convenience vary according to age, income, residential postcode (henceforth referred to as location) or retail centre preference. In contrast to subsequent tests, education was included as an additional variable because of its potential influence over the way consumers define concepts in general. Unlike convenience attributes, which relate specifically to retail centre convenience, the dimensions derive from the generic meaning of convenience and are therefore more likely to be influenced by respondents' level of education.

6.3.2 Checks for violations of assumptions for T-Tests

Two forms of T-test were used, one-sample T-tests and independent-sample T-tests. The assumptions are the same for both forms of T-test.

6.3.2.1 Scale of measurement
In order to properly utilise T-tests the data should be at the interval or ratio level of measurement (Coakes & Steed 2001). For reasons highlighted in section 4.2.5, the scales utilised in this study are typically treated as interval scales.

6.3.2.2 Random sampling
The use of T-tests also requires that scores are randomly sampled (Coakes & Steed 2001). Section 4.3.2 detailed how this criterion was satisfied.

6.3.2.3 Observations are normally distributed
Skewness and kurtosis z-scores (Field 2000) were used to test the assumption that scores be normally distributed in the population (Coakes & Steed 2001). Using this criterion, eight scales were found to have z-scores greater than 1.96 (Appendix D) and therefore non-normal distributions (Pallant 2001). While the Central Limit Theorem dictates that T-tests can be used for non-normal data when using a large sample (Moore & McCabe 1998), there is no procedure for determining the sample size at which the distribution becomes normal (Ott 1993). The mean and standard deviation should only be used when distributions are free of outliers (Ott 1993; Moore 2000) because they can completely alter a conclusion. This criterion is not only critical to T-tests. The other methods of analysis employed in this study - factor analysis, correlations, ANOVA, logistic regression and discriminant analysis - are all sensitive to outliers (Tabachnick & Fidell 2001; Huberty 2003). Given the research objective of population inference based on a sample statistic, the estimate of the mean should represent the typical value. Outliers distort this estimate, creating a value based on a small number of extreme scores (Tabachnick & Fidell 2001). They were therefore removed from the analysis because their impact would be disproportionate in the overall results (Hair et al 1998). As recommended by Hays (1994) and Tamhane and Dunlop (2000) Appendix D lists the differences in means for the eight variables with outliers included and excluded. Only 1.9% of cases were excluded as outliers. While the impact of this on the eight mean scores was only slight (mean scores changed by just 0.7% on average), it reduced all skewness and kurtosis z-scores below the 1.96 level, thereby suggesting normality.

6.3.3 Checks for violations of assumptions for One-Way Between Groups ANOVA

6.3.3.1 Random Sampling
Compliance with this assumption is a matter of research design and is discussed in section 4.3.2.

6.3.3.2 Homogeneity of variance
Levene's test was used to determine whether the scores in each group had homogenous variances (Coakes & Steed 2001). Where variances were equal the Tukey test was used for its wide acceptability (Argyrous 1996) and propensity for balancing type 1 and 2 errors (Bower 1998). When variances were not equal, the Games-Howell test was used because it generally performs the best out of all tests of this nature (Field 2000).

6.3.3.3 Observations are normally distributed
For the same reasons given for T-tests, outliers were deleted. Moreover, Levene's test for homogeneity of variance loses its robustness when confronted with non-normal data (Stevens 1996).

6.3.4 Analysis of the Dimensions of Retail Centre Convenience

H1: Retail centre convenience consists of a temporal dimension.

The sample mean for the temporal dimension was 5.3 (SD=1.0), a value significantly above the test value 4, t (530) = 7.99, one-tailed p < .001. The effect size (d=1.37) indicates this to be a large effect. The temporal meaning of convenience was consistent across age, education, location, retail centre preference (table 6.4) and gender (table 6.5). There was however a statistically significant difference for income, with higher-income respondents (M=5.5, SD=1.0) perceiving temporal factors as being more closely related to convenience than middle-income respondents (M=5.2, SD=1.0). However, with an eta-squared value of 0.02 the magnitude of the difference is only very small. The relative consistency of beliefs is evident in the summary of mean scores provided in tables 6.6 and 6.7.

H2: Retail centre convenience consists of a spatial dimension.

The sample mean for the spatial dimension was 4.9 (SD=1.3), a value significantly above 4, t (537) = 15.81, one-tailed p < .001. The effect size (d=.68) indicates a moderate to large effect. The spatial meaning of convenience was consistent across income, location (table 6.4) and gender (table 6.5). There were however statistically significant differences among the four age groups, with the 18-38 (M=4.6, SD=1.3) and the 39-50 age groups (M=4.6, SD=1.3) assigning less convenience to spatial factors then the 51-64 (M=5.1, SD=1.2) and 65-91 age groups (M=5.1, SD=1.1). Given that walking distances are a key determinant of physical effort, it is logical that older shoppers would perceive greater convenience in spatial attributes. There were also statistically significant differences for education, with the lower-education group (M=5.0, SD=1.2) assigning greater meaning to spatial convenience then the higher-education group (M=4.7, SD=1.3). Rather than seek to explain such a difference, it is best interpreted in the context of the very small eta-squared value (.01). Analysis also identified statistically significant differences for retail centre preference, with SCP (M=5.1, SD=1.1) placing greater emphasis on the spatial meaning of convenience than SSP (M=4.6, SD=1.3) and NPP (M=4.9, SD=1.4). Given that shopping centres have traditionally been designed to provide spatial convenience

(Maitland 1985; Kellerman 1996), it is logical that SCP should associate greater convenience with the spatial dimension.

Table 6.4 One-way ANOVA tests for the dimensions of convenience

Dimension	Variable	DF(1)	DF(2)	F-score	Sig.	Eta-Sq.
Time	Income	2	464	3.3	.04	.02
	Age	3	521	1.2	.31	
	Education	2	528	.33	.72	
	Location	3	536	.31	.82	
	Preference	2	519	.34	.71	
Space	Income	2	472	2.1	.12	
	Age	3	528	7.0	<.001	.04
	Education	2	535	3.3	.04	.01
	Location	3	534	2.1	.10	
	Preference	2	517	7.9	<.001	.03
Effort	Income	2	471	4.4	.01	.02
	Age	3	528	2.7	.045	.04
	Education	2	535	.08	.92	
	Location	3	534	.68	.56	
	Preference	2	517	1.7	.19	
Aesthetic	Income	2	464	2.1	.13	
	Age	3	520	4.9	.002	.03
	Education	2	536	4.6	.01	.02
	Location	3	535	2.5	.06	
	Preference	2	518	3.7	.03	.01
Social	Income	2	458	3.2	.04	.01
	Age	3	514	2.1	.10	
	Education	2	521	2.1	.12	
	Location	3	523	2.5	.06	
	Preference	2	518	2.4	.09	
Economic	Income	2	462	5.4	.005	.02
	Age	3	518	1.5	.21	
	Education	2	525	2.0	.13	
	Location	3	535	1.2	.31	
	Preference	2	518	3.4	.04	.01

H3: Retail centre convenience consists of an effort dimension.

The sample mean for the effort dimension was 5.5 (SD=.9), a value significantly above 4, t (537) = 36.76, one-tailed p < .001. The effect size d =1.58 indicates a very large effect. The belief that convenience consists of an effort dimension was consistent across education, location, retail centre preference (table 6.4) and gender (table 6.5). There were however differences, albeit small, for both income and age. The middle-income group (M=5.3, SD=.9) assign significantly less convenience to effort compared to the higher-income group (M=5.6, SD=.9). Analysis of the differences across age revealed a pattern consistent with the spatial dimension. Respondents from the 51-64 (M=5.6, SD=.8) and 65-91 age groups (M=5.5, SD=.9) are more likely to define convenience in ways that reduce shopping effort than those from the 18-38 (M=5.4, SD=.9) and the 39-50 age groups (M=5.3, SD=1.0). Due to the link between distance and effort, such a consistent interpretation is to be expected.

Table 6.5 Independent-sample T-tests for the dimensions of convenience

Dimension	Gender	M	SD	DF	t-score	Sig.	Eta-Sq.
Time	Female	5.3	1.1	465	1.2	.22	
	Male	5.2	1.0				
Space	Female	4.9	1.3	462	.86	.39	
	Male	4.8	1.1				
Effort	Female	5.5	.9	534	1.3	.18	
	Male	5.4	1.0				
Aesthetic	Female	2.2	.9	535	2.1	.03	.01
	Male	2.4	1.0				
Social	Female	2.0	.8	393	5.2	<.001	.05
	Male	2.4	.8				
Economic	Female	2.7	1.1	535	.76	.45	
	Male	2.8	1.1				

Table 6.6 The dimensions of convenience by gender, age and income

		Gender		Age				Income		
Dimension	AV	M	F	18-38	39-50	51-64	65+	L	M	U
Effort	**5.5**	5.4	5.5	5.4	5.3	5.6	5.5	5.5	5.3	5.6
Time	**5.3**	5.2	5.3	5.3	5.4	5.4	5.2	5.3	5.2	5.5
Space	**4.9**	4.8	4.9	4.6	4.6	5.1	5.1	4.9	4.7	4.9
Economic	**2.7**	2.8	2.7	2.7	2.6	2.6	2.8	2.8	2.7	2.4
Aesthetic	**2.2**	2.4	2.2	2.1	2.1	2.2	2.4	2.3	2.2	2.1
Social	**2.1**	2.4	2.0	2.2	2.0	2.0	2.2	2.1	2.3	2.0

Table 6.7 The dimensions of convenience by location, preference and education

		Location				Preference			Education		
Dimension	AV	NE	SE	SW	NW	SSP	SCP	NPP	L	I	H
Effort	**5.5**	5.5	5.4	5.5	5.4	5.2	5.2	5.4	5.4	5.5	5.4
Time	**5.3**	5.3	5.2	5.3	5.3	5.2	5.2	5.4	5.3	5.3	5.4
Space	**4.9**	5.0	4.9	4.8	4.7	4.6	5.1	4.9	5.0	5.0	4.7
Economic	**2.7**	2.8	2.8	2.6	2.7	2.6	2.8	3.0	2.9	2.7	2.6
Aesthetic	**2.2**	2.4	2.3	2.1	2.1	2.2	2.2	2.5	2.5	2.2	2.1
Social	**2.1**	2.3	2.2	2.0	2.1	2.1	2.3	2.3	2.3	2.0	2.2

H4: Retail centre convenience does not consist of an aesthetic dimension.

The sample mean for the aesthetic dimension was 2.2 (SD=.9), a value significantly below 4, t (538) = 43.7, one-tailed p < .001. The effect size d =.93 indicates a large effect. Analysis showed a small yet significant difference for gender (table 6.5), with males (M=2.4, SD=.1.0) perceiving greater convenience in aesthetic features then females (M=2.2, SD=.9). There were also small statistically significant differences for age, education and retail centre preference (table 6.4). Respondents from the 65-91 age group (M=2.4, SD=.9) again recorded higher mean scores than respondents from the 18-38 (M=2.1, SD=.9) and the 39-50 age groups (M=2.1, SD=.8). In terms of education, the lower-education group (M=2.5, SD=1.0) recorded a mean score significantly higher than the higher-education group (M=2.1, SD=1.0). And for retail centre preference, NPP (M=2.5, SD=1.0) perceive greater convenience in aesthetic features then SSP (M=2.2, SD=.9). The fact that the meaning of aesthetics and convenience was consistent across only income and location suggests that consumers are undecided as to the link between the two. However, before interpreting the reasons behind this, it is necessary to consider two key factors; (1) the magnitude of all four differences was only small; (2) the range of scores across all segments was just 2.1 to 2.5, indicating that respondents are

consistent in their belief that convenience does not comprise an aesthetic dimension (tables 6.6 and 6.7).

H5: Retail centre convenience does not consist of a social dimension.

The sample mean for the social dimension was 2.1 (SD=.8), a value significantly below 3, t (524) = 24.50, one-tailed p < .001. The effect size d =1.06 indicates a very large effect. The consistent meaning of convenience was again evident with no statistically significant differences for age, education, location or retail centre preference, and only a small statistically significant difference for income (table 6.4). Middle-income respondents (M=2.3, SD=.8) were found to assign a greater link between social factors and convenience than higher-income respondents (M=2.0, SD=.8). An independent-samples T-test also showed that males (M=2.4, SD=.8) perceive greater convenience in social factors then females (M=2.0, SD=.8). It proved to be the only statistically significant difference across the six dimensions that was anything other than small in magnitude. Even then, it was not sufficient to alter the general belief that convenience does not comprise a social dimension. This finding, in combination with the findings relating to H4 provides empirical evidence refuting the anecdotal proposition that convenience includes aesthetic and social dimensions (e.g. Kelley 1958; Risch 1987).

H6: Retail centre convenience does not consist of an economic dimension.

The sample mean for the economic dimension was 2.7 (SD=1.0), a value significantly below 4, t (527) = 7.29, one-tailed p < .001. The effect size d =1.3 indicates a large effect. The link between economic factors and convenience was consistent across age, education, location (table 6.4) and gender (table 6.5). There were however small statistically significant differences for income and retail centre preference. Lower-income respondents (M=2.8, SD=1.1) recorded a higher mean score than higher-income respondents (M=2.4, SD=1.0). In terms of retail centre preference, the mean score for NPP (M=3.0, SD=1.1) was statistically higher than that of SSP (M=2.6, SD=1.1). In spite of the statistically significant differences across two of the six variables, the range of scores (2.4 to 3.0) is indicative of the overall belief that convenience does not comprise an economic dimension (tables 6.6 and 6.7).

6.3.5 Discussion

The results of the one-sample T-tests support Proposition 1 that consumers believe that retail centre convenience consists of dimensions that represent the non-financial costs of patronage. These non-financial costs are the time, effort and distance required to shop at a retail centre. In answer to research question 2, independent-sample T-tests and ANOVA tests indicate that beliefs towards the dimensions of convenience are relatively consistent across all variables. In all, thirty-six separate independent sample T-tests and ANOVA tests were conducted to test this consistency. While statistically significant differences were identified in fourteen of these tests, all but one were small in magnitude and none were able to alter the overall belief towards the convenience of any one dimension. Irrespective of gender, age, income, location and retail centre preference, consumers believe that retail centre convenience consists of temporal, spatial and effort dimensions.

6.4 THE ATTRIBUTES OF RETAIL CENTRE CONVENIENCE

6.4.1 Data Analysis Procedures

This section addresses Proposition 2 that *retail centre convenience comprises attributes that determine the non-financial costs of patronising a centre.* A review of retail literature identified eighteen attributes that in influencing the non-financial cost of patronising a retail centre also potentially determine its convenience. One-sample T-tests will be used to examine the hypotheses that each of these serves as an attribute of retail centre convenience. As was the case with the treatment of the six dimensions, the chosen value for the hypothesised mean was determined by the distribution of each variable. Where the variable was normally distributed, the value of the hypothesised mean was set at four, the mid-point of the Likert scale representing a neutral belief. Because the distributions of parking availability, parking proximity and public transport were negatively skewed, the value of the hypothesised mean was set at greater than or equal to five.

This section also addresses Research Question 3: *Do the attributes of retail centre convenience differ across demographic and behavioural variables?* Independent-samples T-tests and one-way ANOVA tests will be used to determine whether consumer attitudes are consistent across gender, age, income, location and retail centre preference.

6.4.2 Checks for violations of assumptions

Details of compliance with the assumptions for one-sample T-tests, independent-samples T-tests and one-way ANOVA tests were previously provided in sections 6.3.2 and 6.3.3.

6.4.3 Analysis of the Attributes of Retail Centre Convenience

H7: One-stop shopping is an attribute of retail centre convenience.

The sample mean for one-stop shopping was M=5.8 (SD=1.4), a value significantly above 4, t (540) = 31.1, one-tailed p < .001. The effect size d of 1.3 indicates a large effect. The convenience of one-stop shopping was consistent across age, income, location (table 6.8) and gender (table 6.9). The one exception was retail centre preference, with SCP (M=6.2, SD=1.1) assigning greater convenience to one-stop shopping than both SSP (M=5.5, SD=1.5) and NPP (M=5.5, SD=1.4). While there are differences in the absolute mean scores of SSP and SCP there are similarities in the way they rank the convenience of one-stop shopping. SSP rank it as their fifth most convenient attribute and SCP as their fourth (table 6.10).

H8: The proximity of a retail centre is an attribute of its convenience.

The sample mean for proximity of 5.8 (SD=1.4) indicates that consumers believe it is a convenience attribute, t (536) = 29.9, one-tailed p < .001. With an effect size d of 1.3 this represents a large effect. The only statistically significant difference was small and related to gender (table 6.9). Females (M=5.9, SD=1.3) assign greater convenience to proximity then do males (M=5.5, SD=1.4). Otherwise, the convenience of proximity was consistent across income, age, location and retail centre preference (table 6.8). Analysis of the beliefs of SSP and SCP yielded an interesting finding. SSP assign a mean score of 5.7 to the degree of convenience associated with proximity, compared to 5.8 for SCP (table 6.10). While this suggests

that SCP perceive greater convenience in proximity, SSP actually rank it higher overall (4th as compared to 7th).

Table 6.8 One-way ANOVA tests for the meaning of convenience

Attribute	Variable	DF(1)	DF(2)	F-score	Sig.	Eta-Sq.
One-Stop Shopping	Income	2	473	.84	.43	
	Age	3	530	1.6	.19	
	Location	3	537	.17	.91	
	Preference	2	520	15.3	<.001	.06
Proximity	Income	2	469	.59	.56	
	Age	3	527	.85	.47	
	Location	3	533	.41	.75	
	Preference	2	516	.44	.64	
Trading Hours	Income	2	473	3.8	.02	.02
	Age	3	530	12.0	<.001	.04
	Location	3	537	2.8	.04	.02
	Preference	2	520	2.6	.07	
Shopping Services	Income	2	472	2.6	.08	
	Age	3	529	6.0	.001	.03
	Location	3	536	2.0	.11	
	Preference	2	519	8.8	<.001	.03
Enclosure	Income	2	472	.64	.53	
	Age	3	528	1.3	.29	
	Location	3	535	6.8	<.001	.04
	Preference	2	519	33.0	<.001	.11
Pedestrian Areas	Income	2	467	3.8	.02	.02
	Age	3	524	1.2	.32	
	Location	3	531	1.7	.16	
	Preference	2	515	1.8	.17	
Store Visibility	Income	2	472	.72	.49	
	Age	3	529	2.8	.04	.02
	Location	3	536	.43	.73	
	Preference	2	519	4.4	.01	.02
Size/Design	Income	2	472	1.4	.25	
	Age	3	529	5.3	.01	.03
	Location	3	536	4.7	.003	.03
	Preference	2	519	1.1	.35	
Compatibility	Income	2	472	2.8	.06	
	Age	3	529	1.3	.26	
	Location	3	536	2.3	.08	
	Preference	2	520	4.8	.009	.04
Concentration	Income	2	473	.39	.68	
	Age	3	530	.24	.87	
	Location	3	537	3.3	.02	.02
	Preference	2	520	4.8	.009	.02
Parking Avail.	Income	2	410	.26	.77	
	Age	3	460	.46	.71	
	Location	3	465	.11	.95	
	Preference	2	451	.92	.40	
Parking Proximity	Income	2	427	.84	.43	
	Age	3	478	.96	.41	
	Location	3	483	.37	.78	
	Preference	2	469	.24	.79	
Number of Lanes	Income	2	428	1.2	.30	
	Age	3	478	1.7	.17	
	Location	3	483	3.5	.02	.02
	Preference	2	468	8.0	.001	.03

Table 6.8 (continued): One-way ANOVA tests for the meaning of convenience

Attribute	Variable	DF(1)	DF(2)	F-score	Sig.	Eta-Sq.
Speed Limits	Income	2	427	.20	.82	
	Age	3	477	1.2	.31	
	Location	3	482	1.0	.39	
	Preference	2	467	5.6	.004	.02
Traffic Controls	Income	2	427	1.1	.32	
	Age	3	477	1.4	.24	
	Location	3	482	.2	.90	
	Preference	2	467	.23	.80	
Public transport	Income	2	102	1.5	.23	
	Age	3	112	.48	.70	
	Location	3	116	1.3	.29	
	Preference	2	109	.80	.45	

Table 6.9 Independent-sample T-tests for the meaning of convenience

ATTRIBUTE	GENDER	M	SD	DF	t-score	Sig.	Eta-Sq.
One-Stop Shopping	Female	5.9	1.4	537	1.89	.06	
	Male	5.7	1.2				
Proximity	Female	5.9	1.3	392	3.38	.001	.02
	Male	5.5	1.4				
Trading Hours	Female	5.6	1.4	448	0.48	.64	
	Male	5.5	1.5				
Shopping Services	Female	4.4	2.0	441	2.66	.008	.02
	Male	3.9	1.9				
Enclosure	Female	5.5	1.6	535	1.78	.08	
	Male	5.3	1.5				
Pedestrian Areas	Female	4.2	1.8	531	0.59	.56	
	Male	4.3	1.7				
Store Visibility	Female	3.9	1.7	536	1.23	.22	
	Male	4.0	1.7				
Size/Design	Female	4.5	1.8	536	1.30	.19	
	Male	4.3	1.6				
Compatibility	Female	5.6	1.5	536	0.64	.52	
	Male	5.5	1.3				
Concentration	Female	5.2	1.7	537	.78	.44	
	Male	5.1	1.8				
Parking Availability	Female	6.7	0.5	338	2.13	.03	.01
	Male	6.6	0.6				
Parking Proximity	Female	6.2	1.0	484	2.7	.007	.01
	Male	6.0	1.2				
Number of Lanes	Female	5.3	1.5	484	1.09	.28	
	Male	5.4	1.5				
Speed Limits	Female	4.0	1.7	483	0.42	.68	
	Male	4.1	1.8				
Traffic Controls	Female	4.3	1.8	483	1.08	.28	
	Male	4.5	1.8				
Public transport	Female	6.6	0.7	109	0.30	.77	
	Male	6.6	0.6				

Table 6.10 The attributes of convenience by location and retail centre preference

		Location				Preference		
Attribute	**AV**	**NE**	**SE**	**SW**	**NW**	**SSP**	**SCP**	**NPP**
Parking number	**6.7**	6.7	6.7	6.7	6.7	6.6	6.7	6.6
Public transport	**6.4**	6.7	6.6	6.2	6.4	6.5	6.5	6.2
Parking proximity	**6.1**	6.2	6.1	6.2	6.1	6.1	6.2	6.1
Proximity	**5.8**	5.7	5.8	5.8	5.9	5.7	5.8	5.8
One-stop shopping	**5.8**	5.8	5.9	5.8	5.9	5.5	6.2	5.5
Compatibility	**5.6**	5.6	5.8	5.4	5.4	5.3	5.9	5.3
Trading hours	**5.5**	5.6	5.3	5.5	5.8	5.4	5.7	5.5
Enclosure	**5.4**	5.8	5.6	5.0	5.3	4.9	6.0	5.3
Lane number	**5.3**	5.6	5.5	5.1	5.1	5.1	5.6	5.2
Concentration	**5.1**	5.2	5.4	4.9	5.0	4.9	5.4	5.2
Design	**4.4**	4.6	4.6	4.4	3.9	4.5	4.5	4.3
Size	**4.4**	4.6	4.6	4.4	3.9	4.5	4.5	4.3
Traffic controls	**4.4**	4.5	4.3	4.4	4.3	4.3	4.4	4.3
Pedestrian	**4.3**	4.3	4.4	4.1	4.4	4.1	4.4	4.1
Shopping services	**4.2**	4.1	4.4	4.0	4.5	3.8	4.6	4.2
Parking type	**-**							
Speed limits	**4.0**	3.9	4.1	4.1	3.8	3.7	4.3	4.2
Visibility	**3.9**	3.8	3.9	4.0	4.0	4.1	3.7	4.0

H9: Extended trading hours are an attribute of retail centre convenience.

The sample mean for extended trading hours of 5.5 (SD=1.5) identifies it as a convenience attribute, t (540) = 24.4, one-tailed p < .001. Moreover, the effect size d of 1.05 indicates a large effect. Analysis identified that beliefs towards its degree of convenience differ across several variables (table 6.8). The first of these is age with the 65-91 age group (M=4.9, SD=1.8) assigning less convenience to extended trading hours then the 18-38 (M=5.9, SD=1.2), 39-50 (M=5.8, SD=1.3) and 51-64 age groups (M=5.6, SD=1.4). This is a logical outcome given that their retired status allows them the freedom to shop during normal trading hours. There were also statistically significant differences for income, with lower-income respondents (M=5.3, SD=1.7) assigning less convenience to extended trading hours than middle-income respondents (M=5.7, SD=1.1). Analysis across the four zones also revealed statistically significant differences, with respondents from the NW zone (M=5.8, SD=1.4) perceiving greater convenience than those from the SE (M=5.3, SD=1.6). One possible explanation for this is that shopping strips in the northwest are open longer than shopping strips in the southeast (refer chapter 7). Despite the difference in mean scores across three of the variables, eta-squared tests revealed that all were small in magnitude. There were no significant differences in scores for gender or retail centre preference.

H10: The provision of shopping services is an attribute of retail centre convenience.

The sample mean for the provision of shopping services was 4.24. Despite the small effect size (d=.12), this value is still significant enough to reject the null hypothesis, t (539) = 2.82, one-tailed p = .003. As indicated by the relatively large variance (SD=2.0), beliefs were less then consistent. The tendency for many shopping services to be targeted towards shopping mothers may explain why males (M=3.9, SD=1.9) attribute less convenience to them as compared to females (M=4.4, SD=2.0). There were also small significant differences across the four age groups, with the 18-38 age group (M=4.8, SD=1.8) perceiving greater convenience in shopping services than the 51-64 (M=3.9, SD=1.9) and 65-91 age groups (M=4.0, SD=2.1). This can again be attributed to the fact that many of these services are directed to young parents. The third statistically significant difference related to retail centre preference with SCP assigning greater convenience to this attribute than SSP. This was reflected in their differing rankings, with SCP ranking it 11th in

convenience and SSP 15th (table 6.10). In effect, SCP (M=4.6, SD=1.9) perceive shopping services as a convenience attribute, while SSP do not (M=3.8, SD=2.0). This finding may be explained by the competitive advantage shopping centres hold over shopping strips in terms of shopping service provision (Reimers & Clulow 2000). There were no statistically significant differences for income or location (table 6.8). In summary, analysis suggests there is some inconsistency in beliefs towards the overall convenience of shopping services. Whereas most respondents believe that shopping services are an attribute of retail centre convenience, males, SSP and those in the 51-64 and 65-91 age groups do not.

H11: Climate control through enclosure is an attribute of retail centre convenience.

In spite of the general belief that enclosure contributes to retail centre convenience (M=5.4, SD=1.6), t (538) = 21.15, one-tailed p < .001, (d=.91), there were expected differences for both location and retail centre preference (table 6.8). Given that all shopping centres within the geographic sampling frame are enclosed, it follows that those that prefer shopping centres are likely to perceive greater convenience in enclosure. This was confirmed by the substantial difference in mean scores for SCP (M=6.0, SD=1.2) as compared to SSP (M=4.9, SD=1.7) and NPP (M=5.3, SD=1.7). This attribute provided one of the few examples where the magnitude of the difference was large. This was reflected in the difference in rankings, with SCP ranking it 5th in convenience compared to 9th for SSP. Similarly respondents from the NE (M=5.8, SD=1.4) and SE zones (M=5.6, SD=1.5) hold different beliefs to respondents from the SW (M=5.0, SD=1.7) where shopping strips are prevalent. The convenience attributed to enclosure was otherwise consistent across income, age (table 6.8) and gender (table 6.9).

H12: The provision of pedestrian areas is an attribute of retail centre convenience.

The sample mean for the provision of dedicated pedestrian areas was 4.3 (SD=1.8). While the effect size d of .15 is only indicative of a small effect, it is still sufficient to indicate that pedestrian areas serve as an attribute of retail centre convenience, t (534) = 3.47, two-tailed p < .001. Beliefs were consistent across age, location, retail centre preference (table 6.8) and gender (table 6.9). There was however a statistically significant difference, albeit small, for income. Lower-income respondents (M=4.5, SD=1.9) assign greater convenience to the availability of pedestrian areas than do higher-income respondents (M=4.1, SD=1.6). One possible explanation for this is that the provision of pedestrian areas influences intra-centre convenience which analysis throughout identified as being more convenient and/or more important to lower-income respondents. Conversely, in possessing higher car-ownership levels (Australian Bureau of Statistics 1998A), the higher-income group is less likely to assign convenience to an attribute that inhibits intra-centre travel for the car-borne shopper.

H13: The visibility of stores from access routes is an attribute of retail centre convenience.

The sample mean for store visibility was 3.9 (SD=1.7). As such, it indicates that it does not serve as an attribute of retail centre convenience, t (539) = 1.22, two-tailed p = .22. Such a finding is not unexpected in the context of a multi-purpose shopping trip. Under this circumstance consumers are more likely to patronise a local retail centre where they are familiar with its offerings. This is likely to negate any perceived convenience in being able to visually identify stores from a roadway. Analysis revealed that the 65-91 age group (M=3.6, SD=1.9) assign less convenience to store visibility then the 39-50 age group (M=4.2, SD=1.7). While this could be attributed to the fact that the younger group are more likely to use a car for

shopping, it does not explain why the 18-38 (M=4.0, SD=1.7) and 51-64 age groups (M=3.8, SD=1.9) did not significantly differ from the oldest group. There was also a statistically significant difference for retail centre preference, with SCP (M=3.7, SD=1.6) assigning lesser convenience to store visibility than SSP (M=4.1, SD=1.7). It served as the only example of SSP assigning greater convenience to an attribute than SCP (table 6.10). Significantly, SSP perceive store visibility as a convenience attribute whereas SCP do not. This finding is consistent with the inward orientation of shopping centres, meaning that few if any of their stores are directly visible to passing motorists. In direct contrast, in their efforts to stimulate impulse purchasing along major thoroughfares, most shopping strip retailers deliberately seek to enhance their visibility to passing motorists. There were no further statistically significant differences across income, location (table 6.8) and gender (table 6.9). In summary, SSP, NPP and respondents from the 39-50 age group not only provided significantly different mean scores, they were also above 4.00 (tables 6.10 and 6.11) thereby indicating the belief that store visibility is a convenience attribute. As such, there is some variation in the overall belief as to the convenience of store visibility.

H14: The size and design of a retail centre is an attribute of its convenience.

The sample mean for limiting the size of retail centres to no more than 400 metres in length was 4.4 (SD=1.7). Despite the relatively small effect size (d=.23), it indicates that the size and design of a retail centre serves as an attribute of its convenience, t (540) = 5.30, two-tailed p < .001. There were no significant differences for income, retail centre preference (table 6.8) and gender (table 6.9). There was however a small but significant difference for age, with the 18-38 age group (M=3.9, SD=1.6) assigning less convenience to size limitations than the 51-64 (M=4.6, SD=1.8) and 65-91 age groups (M=4.7, SD=1.8). As such, the youngest age group do not perceive the size and design of a retail centre as influencing its convenience. One explanation for this is that older consumers perceive increased convenience in a compact retail centre because it minimises the physical effort in intra-centre travel. However this cannot automatically be assumed because the convenience of other intra-centre spatial attributes such as compatibility and concentration was consistent across all age groups. There was also a statistically significant difference for location, with respondents from the NE (M=4.6, SD=1.5) and SE (M=4.6, SD=1.8) zones perceiving greater convenience in smaller retail centres than respondents from the NW zone (M=3.9, SD=1.7). This effectively meant that respondents from the NW do not believe that the size and design of a retail centre is an attribute of its convenience. This can again be attributed to the prevailing retail characteristics of respondents immediate shopping environments. The NE and SE zones are both characterised by their shopping centres, which are traditionally smaller and more compact than shopping strips (Weiss 1996).

H15: Locating compatible stores together is an attribute of retail centre convenience.

The sample mean for compatibility was 5.6 (SD=1.4), a value significantly higher than 4, t (539) = 25.9, one-tailed p < .001. Moreover, the effect size d of 1.1 indicates a large effect. The convenience of compatibility is consistent across income, age, location (table 6.8) and gender (table 6.9). There were small statistically significant differences for retail centre preference, with SCP (M=5.9, SD=1.1) recording significantly higher mean scores than that of SSP (M=5.3, SD=1.6). The fact that SCP assign greater convenience to this attribute is consistent with the view that shopping centres provide greater store compatibility (Eppli & Benjamin 1994). Again however, SSP and SCP were similar in their rating of the convenience of compatibility, the former ranking it seventh, the latter ranking it sixth (table 6.10).

Table 6.11 The attributes of convenience by gender, age and income

		Gender		Age				Income		
Attribute	**AV**	**M**	**F**	**18-38**	**39-50**	**51-64**	**65+**	**L**	**M**	**U**
Parking number	**6.7**	6.6	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Public transport	**6.4**	6.4	6.5	6.6	6.4	6.4	6.4	6.6	6.4	6.2
Parking proximity	**6.1**	6.0	6.2	6.1	6.1	6.1	6.3	6.1	6.0	6.2
Proximity	**5.8**	5.5	5.9	5.8	5.9	5.7	5.6	5.8	5.7	5.8
One-stop shopping	**5.8**	5.7	5.9	6.0	5.8	5.7	5.7	5.8	5.7	5.9
Compatibility	**5.6**	5.5	5.6	5.7	5.5	5.4	5.7	5.7	5.4	5.7
Trading hours	**5.5**	5.5	5.6	5.9	5.8	5.6	4.9	5.3	5.7	5.7
Enclosure	**5.4**	5.3	5.5	5.4	5.3	5.3	5.7	5.5	5.4	5.3
Lane number	**5.3**	5.4	5.3	5.3	5.2	5.5	5.5	5.5	5.3	5.2
Concentration	**5.1**	5.1	5.2	5.1	5.1	5.2	5.2	5.2	5.1	5.1
Design	**4.4**	4.3	4.5	3.9	4.4	4.6	4.7	4.5	4.4	4.2
Size	**4.4**	4.3	4.5	3.9	4.4	4.6	4.7	4.5	4.4	4.2
Traffic controls	**4.4**	4.5	4.3	4.6	4.1	4.4	4.4	4.6	4.3	4.3
Pedestrian	**4.3**	4.3	4.2	4.1	4.3	4.3	4.5	4.5	4.4	4.1
Shopping services	**4.2**	3.9	4.4	4.8	4.3	3.9	4.0	4.4	4.4	4.0
Parking type	-									
Speed	**4.0**	4.1	4.0	4.3	4.0	3.9	3.9	4.0	4.0	4.1
Visibility	**3.9**	4.0	3.9	4.0	4.2	3.8	3.6	3.8	4.0	3.9

H16: Segregating retail and non-retail functions is an attribute of retail centre convenience.

The sample mean for concentration of 5.1 (SD=1.7) was significantly higher than 4, t (540) = 15.3, one-tailed p < .001. With an effect size d of .66 this indicates a moderately large effect. Its perceived convenience is consistent across income, age (table 6.8) and gender (table 6.9). There was further evidence that in terms of the meaning of convenience, there is a link between location and retail centre preference. Respondents from the SE zone (M=5.4, SD=1.6) perceive greater convenience in concentration than respondents from the SW (M=4.9, SD=1.9). In line with this finding, SSP (M=4.9, SD=1.8) perceive less convenience in concentration then SCP (M=5.4, SD=1.6). This is a logical response given that shopping centres provide an environment where non-retail functions are largely segregated from retail functions (Reimers & Clulow 2003). Again however, these differences should be considered in the light of the small eta-squared score for both. Moreover, in spite of the statistically significant difference between the mean scores of SSP and SCP, both rank it as their tenth most convenient attribute (table 6.10).

H17: The availability of parking is an attribute of retail centre convenience

With an effect size d of 3.0, the availability of parking provides the greatest degree of convenience (M=6.7, SD=.6), t (468) = 65.82, one-tailed p < .001. Respondents were consistent in their beliefs towards the convenience of parking availability, with just one exception. Males (M=6.6, SD=.6) assign less convenience then females (M=6.7, SD=.5) to this attribute. Such was the consistency in beliefs that the availability of parking served as the most convenient attribute for all segments (tables 6.10 and 6.11).

H18: The ability to park close to desired stores is an attribute of retail centre convenience.

The ability to park close to desired stores (M=6.1, SD=1.1), also serves as a key attribute of convenience, t (486) = 23.1, one-tailed p < .001. Its effect size d of 1.05 represents a large effect. In line with the differing convenience assigned to the availability of parking, males (M=6.0, SD=1.2) also assign less convenience to parking proximity than females (M=6.2, SD=1.0), though the magnitude of the differences was again small. The degree of convenience attributed to parking proximity was consistent across the remaining variables.

H19: The type of parking offered is an attribute of retail centre convenience.

Due to an administrative oversight, the question relating to the degree of convenience associated with the type of parking available was omitted. Its convenience can therefore only be inferred from existing literature and pre-testing. While there is no shortage of evidence that it is a cost-minimising attribute (Welch 1951; Baker & Funaro 1954; Gruen & Smith 1960; Jones 1969; Hasty 1983) these findings must be interpreted in light of their datedness and anecdotal nature. Pre-testing of the survey on 93 respondents did indicate that the type of parking available is an attribute of convenience (M=5.4, SD=1.4). Based on the findings from pre-testing and previous studies, the assumption was made that the type of parking available is an attribute of retail centre convenience.

H20: The number of lanes on access roads to a retail centre is an attribute of its convenience.

The sample mean for the number of traffic lanes was 5.3 (SD=1.5), a value significantly above 4, t (486) = 19.39, one-tailed p < .001. The effect size d of .87 indicates a large effect. While there were no significant differences for age, income (table 6.8) and gender (table 6.9), there were for both location and retail centre preference. SCP (M=5.6, SD=1.2) perceive greater convenience in multiple traffic lanes than SSP (M=5.1, SD=1.7). This may be due to the tendency for shopping centres to locate along major arterials (Dunne & Lusch 1999), which naturally possess more lanes. Following on from this, respondents from the shopping centre dominated NE (M=5.6, SD=1.3) attribute greater convenience to the number of lanes than respondents from the shopping strip dominated SW (M=5.1, SD=1.6).

H21: The traffic controls used by a retail centre are an attribute of its convenience.

The sample mean for the type of traffic controls utilised within a retail centre was 4.4 (SD=1.8). Despite the relatively small effect size (d=.21), it is sufficient to indicate that this attribute serves as an attribute of retail centre convenience, t (485) = 4.77, one-tailed p < .001. The convenience associated with using roundabouts and speed humps instead of traffic lights was consistent across all five variables.

H22: The speed limits on access roads to a retail centre are an attribute of its convenience.

The sample mean for the speed limits on access routes to a retail centre was 4.0 (SD=1.7), a value identical to the hypothesised value of 4, t (485) = .03, one-tailed p < .49. As such, it serves as only one of the two test attributes that are not perceived as contributing to the convenience of a retail centre. Analysis indicated that beliefs towards the convenience of speed limits are consistent across income, age, location (table 6.8) and gender (table 6.9). While there was a statistically significant difference for retail centre preference, it was only small. A post-hoc comparison

found that SCP assign greater convenience to speed limits (M=4.3, SD=1.6) then do SSP (M=3.7, SD=1.8). As with the number of lanes, this could be due to the tendency for shopping centres to locate along major arterials (Dunne & Lusch 1999) where speed limits are higher. While the magnitude of the difference was only small, it was sufficient to distinguish SSP and SCP in their overall beliefs. SCP perceive speed limits as an attribute of retail centre convenience, while SSP do not.

H23: The accessibility of a retail centre by public transport is an attribute of its convenience.

The availability of public transport serves as a key attribute of retail centre convenience (M=6.4, SD=.7), t (111) = 23.96, one-tailed p < .001. With a large effect size d of 2.3 it was second only in effect to the availability of parking. This attribute provided further evidence of the relatively consistent meaning given to convenience, with analysis showing no significant differences across the five variables.

6.4.4 Discussion

Analysis revealed that respondents believe retail centre convenience consists of fifteen attributes. On the basis of findings from pre-testing and the review of literature, the type of parking offered was included as a sixteenth attribute. The only hypothesised attributes that do not contribute to retail centre convenience are higher speed limits on access roads and store visibility. While store visibility may be convenient for car-borne shoppers, it also creates inconvenience by compromising enclosure. Similarly, higher speed limits offer temporal convenience but in compromising safety may impact upon psychological effort by increasing the stress and risk involved in patronising a retail centre. As such the potential cost-minimising properties of these attributes may have been nullified by their associated inconveniences.

Analysis of the way in which consumers define retail centre convenience indicates that its meaning is relatively consistent across gender, age, income, location and retail centre preference. In all, only twenty-three of the eighty independent sample T-tests and ANOVA tests identified statistically significant differences in the levels of convenience associated with the hypothesised attributes. Moreover, the majority of eta-squared values associated with these statistically significant differences were small in magnitude. There were two exceptions. SCP assign significantly more convenience then SSP to one-stop shopping and enclosure.

In spite of the fact that variations in beliefs were relatively few in number and generally small in magnitude, there were important deviations for five attributes. While shopping services and the size and design of a retail centre are regarded in general as convenience attributes, this belief is not shared by all consumers. Respondents from the 18-38 age group and those from the NW zone do not perceive the size and design of a retail centre as influencing its convenience. Similarly, males, SSP and those aged 51-64 do not believe that shopping services are a convenience attribute. Conversely, while speed limits are not regarded as convenience attributes by respondents as a whole, SCP do perceive them as a cost-minimising attribute. This same exception applies to SSP and store visibility.

Of interest was the fact that eight of the twenty-three statistically significant differences in mean scores originated from retail centre preference. In seven of these eight differences, SCP assigned greater convenience to an attribute than SSP. This finding has important ramifications for the supply-side analysis where shopping strips and shopping centres will be compared in terms of their convenience. Mean scores also often varied across the four geographic zones, with

five of the statistically significant differences originating from location. In each of these situations, respondents rated the convenience of an attribute in a way that was consistent with their local retail environment. For example, respondents from shopping strip dominated zones assign less convenience to attributes that characterise shopping centres such as one-stop shopping, shopping services and enclosure. Gender accounted for four differences, with females perceiving greater convenience in all four attributes – proximity, shopping services, parking availability and parking proximity.

6.5 FACTORS THAT INFLUENCE PERCEPTIONS OF THE MOST CONVENIENT RETAIL FORM

6.5.1 Data Analysis Procedures

Analysis of the impact of the various demographic and behavioural variables on the meaning of retail centre convenience indicated that consumer perceptions were influenced by both attitudinal and demographic factors. This raises the prospect that consumer perceptions of the most convenient retail form could also be influenced by multiple factors. The importance of this outcome is evident in the strong relationship that exists between consumers' perceptions of the most convenient retail form and their preferred retail form (refer section 4.5.5). Logistic regression was therefore used to determine the relative influence of demographic variables, consumer attitudes about the convenience of retail centre attributes, and consumer beliefs about the dimensions of convenience, over their perceptions of the most convenient retail form. Analysis was performed using SPSS, and was limited to those with an express perception that one of the two retail forms was more convenient than the other.

6.5.2 Checks for violations of assumptions

6.5.2.1 The ratio of cases to predictor variables

Logistic regression is sensitive to sample size (Tabachnick & Fidell 2001). Of the original 541 cases, 108 were excluded from the analysis due to missing data for an independent variable (the majority of these were patrons, who in only using public transport were unable to provide responses to access and parking attributes). A further 68 cases were excluded due to missing data for the independent variable (64 cases were excluded for indicating that both retail forms were equal in their provision of convenience, and 4 failed to provide an answer for their most convenient retail centre). With 365 effective cases, it offered a ratio of 11-to-1 for each of the thirty-two independent variables, thereby exceeding the minimum acceptable ratio for logistic regression (Hair et al 1998).

6.5.2.2 Multicollinearity

Multicollinearity was assessed by examining the correlation matrix for high correlations among the independent variables (Coakes & Steed 2001). It was also assessed by checking the size of the standard errors of the parameters. Analysis indicated no problem with convergence nor was the standard errors for parameters exceedingly large, thereby indicating that the assumption of multicollinearity had not been violated (Tabachnick & Fidell 2001).

6.5.3 The relationship between convenience attributes and retail centre preference

A direct logistic regression analysis was performed using consumer perceptions of the most convenient retail form as the outcome. Demographic variables, beliefs about the dimensions of convenience and beliefs about the convenience of retail centre attributes served as the predictors. Of the 365 cases available for analysis, 212 perceived the shopping centre as most convenient (SCC) and 153 perceived the shopping strip as most convenient (SSC).

A test of the model with all thirty-two attribute ratings against a constant-only model was statistically reliable, χ^2 (32, N = 365) = 138.73, $p < .001$, indicating that the predictors as a set, reliably distinguished between SSC and SCC. Prediction success was relatively impressive, with 64.1% of SSC and 84.4% of SCC correctly predicted, for an overall success rate of 75.9%.

Table 6.12 provides summary statistics for the six predictors that significantly predicted the most convenient retail form ($p < .05$). Only one of the six predictors, location, was a demographic variable (z = 14.63, $p < .001$). Confirmation of its influence is consistent with the earlier findings from the ANOVA tests that indicated that respondents' beliefs about the convenience of an attribute appeared to be influenced by the extent to which the dominant retail form in their residential zone possessed that attribute. In this case, consumers possess a greater tendency to regard as most convenient the retail form that is prevalent in their residential zone. Beliefs about the convenience of the spatial dimension also serve as a significant predictor (z = 4.17, $p < .04$). This is a logical outcome given that SCC (M=5.1) assign greater convenience to it than SSC (M=4.6) and that the shopping centre offers a more spatially convenient environment (refer chapter 7).

Of the three categories of predictor variables, convenience attributes serve as the most reliable in predicting consumer perceptions about the most convenient retail form. The four attribute predictors are enclosure (z = 13.80, $p < .001$), store visibility (z = 17.67, $p < .001$), one stop shopping (z = 5.36, p = .02), and the number of lanes (z = 5.73, p = .02).

Table 6.12 Logistic regression analysis of the most convenient retail form as a function of attitudinal, belief and demographic variables

Variable	Beta Coefficient	Standard Error	Wald Statistic	Sig.	Exp(B)	95% C.I Lower	95% C.I Upper
Enclosure	.44	.12	13.80	.00	1.56	1.23	1.97
Store visibility	-.43	.10	17.67	.00	.65	.53	.80
One stop shopping	.23	.09	5.36	.02	.80	.65	.97
Number of lanes	.27	.11	5.73	.02	1.31	1.05	1.64
Spatial Dimension	.32	.16	4.17	.04	1.38	1.01	1.88
Location			14.63	.02			

Table 6.13 shows the relationship between perceptions of the most convenient retail form and the four attribute predictors. SCC are more likely to assign greater convenience than SSC to enclosure (M=5.8 and M=4.6 respectively), one-stop shopping (M=6.2, M=5.5) and the number of lanes (M=5.6, M=5.1), while SSC (M=4.1) assign greater convenience than SCC (M=3.7) to store visibility.

Table 6.13 Mean scores for attribute importance as a function of retail centre preference

	Most Convenient Retail Form	
Attribute	**SSC**	**SCC**
One-stop shop	5.5	6.2
Enclosure	4.6	5.8
Number of lanes	5.1	5.6
Store Visibility	4.1	3.7

6.6 THE RELATIONSHIP BETWEEN THE DIMENSIONS AND ATTRIBUTES OF RETAIL CENTRE CONVENIENCE

6.6.1 Data Analysis Procedures

Proposition 2 stipulates that *retail centre convenience comprises attributes that influence the non-financial costs of patronising a retail centre.* This implies that a relationship exists between the attributes and dimensions of retail centre convenience. Correlation analysis will be used to test for the relationship between the temporal, spatial and effort dimensions and the seventeen test attributes.

6.6.2 Checks for violations of assumptions

6.6.2.1 Related pairs and scale of measurement
Data collected should be interval in nature and collected from related pairs (Coakes & Steed 2001). The satisfaction of these assumptions occurs via research design. These issues were discussed in chapter 4 of the thesis.

6.6.2.2 Normality
The scores for each variable should be normally distributed (Coakes & Steed 2001). Analysis of the sixteen variables to be measured identified that three had non-normal distributions due to the presence of outliers. For reasons detailed in section 6.3.2.3 outliers were deleted. Analysis of kurtosis and skewness z-scores after their exclusion indicated normal distributions.

6.6.2.3 Linearity and Homoscedasticity
The relationship between the two variables must not only be linear, the variability in scores for one variable must be roughly equal at all values of the other variable (Coakes & Steed 2001). These assumptions were tested via scatterplots of the variables. Analysis revealed a linear relationship and scores that clustered uniformly around the regression line, for each of the pairs of variables, thereby indicating that the assumptions of linearity and homoscedasticity had not been violated.

6.6.3 Analysis and discussion of the relationship between the dimensions and attributes

Section 6.4 confirmed that retail centre convenience consists of fifteen attributes. The results of the correlation analyses (table 6.14) show that thirty-five of the fifty-one correlations were statistically significant. All correlations ranged between .07 and .29, indicating a small to moderate relationship (Green et al 2000).

Nine of the fifteen convenience attributes correlated with all three dimensions. The majority of these were the attributes perceived as offering the greatest degree of convenience. Public transport provided a significant exception by only correlating with the spatial dimension. Such a relationship is logical given that public transport

allows consumers to access distant retail centres. Similarly, trading hours logically correlated with the temporal and effort dimensions but not the spatial.

Interestingly, given the nature of most shopping services, they correlated with the temporal dimension rather then the effort dimension. The finding that proximity does not correlate with the spatial dimension also defies logical explanation. Significantly, pedestrian areas and traffic controls did not correlate with any of the three dimensions. These attributes serve to reduce the intrusion of cars and slow their speed. This suggests that their perceived convenience may stem from another source such as safety. Another significant outcome relates to the relationship between the two non-convenience attributes. Higher speed limits were not associated with any of the dimensions, while store visibility actually shares a negative relationship with the temporal dimension. The results provide general support for Proposition 2 that retail centre convenience comprises attributes that influence the non-financial costs of patronising a retail centre. Correlation analysis suggests that the greater the degree of convenience associated with an attribute the greater its influence over the dimensions of convenience.

Table 6.14 Correlation of the dimensions and attributes of retail centre convenience

Attribute	Dimension	N	Pearson Correlation	Sig (1-tailed)
Parking number	Time	480	.191	<.001**
	Space	479	.133	.002**
	Effort	478	.221	<.001**
Public transport	Time	120	.114	.108
	Space	120	.159	.041*
	Effort	120	.081	.138
Parking proximity	Time	488	.200	<.001**
	Space	487	.242	<.001**
	Effort	486	.270	<.001**
Proximity	Time	536	.154	<.001**
	Space	534	.056	.100
	Effort	534	.122	.002**
One-stop shopping	Time	540	.187	<.001**
	Space	538	.121	.003**
	Effort	538	.173	<.001**
Compatibility	Time	539	.221	<.001**
	Space	537	.285	<.001**
	Effort	537	.277	<.001**
Trading hours	Time	540	.129	.001**
	Space	538	.050	.126
	Effort	538	.129	.001**
Enclosure	Time	538	.129	.001**
	Space	536	.261	<.001**
	Effort	536	.144	<.001**
Lane number	Time	486	.116	.005**
	Space	485	.160	<.001**
	Effort	484	.155	<.001**
Concentration	Time	540	.123	.002**
	Space	538	.211	<.001**
	Effort	538	.152	<.001**
Design	Time	539	.107	<.001**
	Space	537	.292	<.001**
	Effort	537	.148	.007**
Size	Time	539	.107	<.001**
	Space	537	.292	<.001**
	Effort	537	.148	.007**
Traffic controls	Time	485	.063	.083
	Space	484	-.024	.296
	Effort	483	.059	.099
Pedestrian areas	Time	534	-.018	.340
	Space	532	.070	.054
	Effort	532	.016	.359
Shopping services	Time	539	.027	.266
	Space	537	.071	.050*
	Effort	537	.091	.018*
Speed limits	Time	485	.033	.233
	Space	484	.055	.115
	Effort	483	.059	.097
Store visibility	Time	539	-.074	.043*
	Space	537	-.017	.345
	Effort	537	-.045	.147

* Correlation is significant at the 0.05 level (1-tailed).
** Correlation is significant at the 0.01 level (1-tailed).

SECTION 6C: THE IMPORTANCE OF RETAIL CENTRE CONVENIENCE

6.7 THE IMPORTANCE OF CONVENIENCE AS A STRATEGY

6.7.1 Data Analysis Procedures

This section addresses research questions 4 and 5. Question 4 relates to the importance of retail centre convenience in determining patronage behaviour? Three methods will be used in the demand-side analysis to address this question. The first method measures the importance of convenience relative to other strategies that are often used as alternatives in retail centre design and rejuvenation. Respondents were asked to indicate the importance of each strategy in deciding which retail centre they preferred to visit for a multi-purpose shopping trip. Question 5 seeks to determine whether the importance of convenience is universal, or if it is simply limited to a smaller subset of respondents. Independent-samples T-tests and one-way ANOVA tests will be used to determine whether consumer attitudes towards the five strategies are consistent across gender, age, income, location and retail centre preference.

6.7.2 Checks for violations of assumptions

Details of compliance with the assumptions for independent-samples T-tests and one-way ANOVA tests were previously provided in sections 6.3.2 and 6.3.3.

6.7.3 Analysis of the importance of the five strategies

Of the five strategies, convenience rates highest in importance (M=6.0, SD=1.2). Significantly, its ranking as the most important strategy (tables 6.15 and 6.16) is consistent across all segmentation variables (tables 6.17 and 6.18).

Lower prices rank as the second most important strategy (M=5.0, SD=1.8). As might be expected their importance varies according to income, with the lower-income group (M=5.3, SD=1.8) assigning greater importance to price than the upper-income group (M=4.7, SD=1.6). There were also small statistically significant differences for location and retail centre preference. Respondents from the SW zone (M=4.6, SD=1.8) place less emphasis on price than both SE (M=5.2, SD=1.8) and NW respondents (M=5.4, SD=1.7). This cannot be automatically attributed to differences in income distribution because while the SE zone does possess a higher proportion of low-income households, the NW does not (Australian Bureau of Statistics 1998B). Given that price is of less importance in the southwest, a zone dominated by shopping strips, one possible explanation is that price may be of lesser importance to shopping strip patrons. Post-hoc comparisons of retail centre preference provided support for this notion, indicating that the importance of price is greater for SCP (M=5.3, SD=1.6) than SSP (M=4.7, SD=1.8). There were no significant differences in attitude for age or gender. Despite minor variations in mean scores (eta-squared analysis showed all differences to be small in magnitude), the ranking of price was consistent across all sub-segments except one. The upper-income group ranked the importance of aesthetic features above price, and were the only segment to rank price other than second in importance (tables 6.15 and 6.16).

Table 6.15 The importance of the five strategies by gender, age and income

		Gender		Age				Income		
Attribute	AV	M	F	18-38	39-50	51-64	65+	L	M	U
Convenience	6.0	5.9	6.1	6.1	6.1	6.2	6.0	6.2	5.9	6.2
Economic	5.0	5.1	5.0	5.1	5.2	4.8	4.8	5.3	5.0	4.5
Aesthetic	4.4	4.5	4.4	4.5	4.5	4.5	4.3	4.4	4.3	4.7
Social	3.6	3.6	3.5	3.9	3.7	3.3	3.4	3.5	3.8	3.6
Entertainment	3.4	3.5	3.3	3.7	3.4	3.2	3.0	3.2	3.6	3.5

Table 6.16 The importance of the five strategies by location and retail centre preference

		Location				Preference		
Attribute	AV	NE	SE	SW	NW	SSP	SCP	NPP
Convenience	6.0	6.0	6.1	6.0	6.0	5.9	6.1	5.9
Economic	5.0	4.9	5.2	4.6	5.4	4.8	5.3	5.1
Aesthetic	4.4	4.6	4.5	4.2	4.4	4.4	4.6	4.4
Social	3.6	3.8	3.6	3.3	3.7	3.4	3.8	3.4
Entertainment	3.4	3.3	3.7	3.0	3.5	3.2	3.7	3.0

Table 6.17 Independent-sample T-tests for the importance of the five strategies

ATTRIBUTE	GENDER	M	SD	DF	t-score	Sig.
Convenience	Female	6.1	1.2	522	1.87	.06
	Male	5.9	1.2			
Economic	Female	5.0	1.8	534	.57	.57
	Male	5.1	1.7			
Aesthetic	Female	4.4	1.8	534	.24	.81
	Male	4.5	1.7			
Social	Female	3.5	1.9	537	.69	.49
	Male	3.6	1.8			
Entertainment	Female	3.3	1.8	534	.99	.32
	Male	3.5	1.8			

The aesthetic appeal of a retail centre ranks as the third most important strategy (M=4.4, SD=1.8). The mean scores representing its importance were consistent across all five variables. Moreover, its ranking was also relatively consistent, with only the upper-income group ranking it other than third in salience (table 6.15).

The social qualities of a retail centre rank as the second least important strategy (M=3.6, SD=1.8). Its mean score indicates that social qualities are not important in determining retail centre preference when multi-purpose shopping. Attitudes towards the social qualities of a retail centre are consistent across income, location (table 6.18) and gender (table 6.17). There were small statistically significant differences for age, with the 18-38 age group (M=3.9, SD=1.6) assigning greater importance to social factors than the 51-64 age group (M=3.3, SD=1.9). This is consistent with empirical evidence showing that younger shoppers place greater emphasis on social attributes (Wakefield & Baker 1998). There were also small statistically significant differences for retail centre preference with SCP (M=3.8, SD=1.7) assigning greater weight to social factors than SSP (M=3.4, SD=2.0). This is also consistent with the finding that the shopping centre is often favoured for its ability to satisfy social needs (Swinyard 1998). Such variations must be considered in the context of their small magnitudes and the consistent attitude that social strategies are unlikely to serve as salient influences in the context of multi-purpose shopping (tables 6.15 and 6.16).

Table 6.18 One-way ANOVA tests for the importance of the five strategies

Strategy	Variable	DF(1)	DF(2)	F-score	Sig.	Eta-Sq.
Convenient	Income	2	460	1.4	.25	
	Age	3	505	.86	.46	
	Location	3	522	.30	.83	
	Preference	2	505	2.4	.10	
Economic	Income	2	471	4.7	.01	.02
	Age	3	527	1.6	.20	
	Location	3	534	4.8	.003	.03
	Preference	2	517	7.3	.001	.03
Aesthetic	Income	2	469	2.4	.09	
	Age	3	526	.28	.84	
	Location	3	533	1.6	.19	
	Preference	2	516	1.4	.25	
Social	Income	2	473	1.1	.32	
	Age	3	530	2.7	.05	.01
	Location	3	537	2.4	.07	
	Preference	2	520	3.7	.03	.01
Entertainment	Income	2	471	2.6	.07	
	Age	3	527	3.9	.01	.02
	Location	3	534	4.0	.008	.02
	Preference	2	520	3.7	.03	.02

Interestingly given its importance in many retail studies, entertainment ranked last amongst the five strategies (M=3.4, SD=1.8). While there were statistically significant differences for age, location and retail centre preference, eta squared showed the magnitude of these to be only small (table 6.18). In line with attitudes towards social strategies, the 18-38 age group (M=3.7, SD=1.5) also assign greater importance to entertainment than the 65-91 age group (M=3.0, SD=1.8). This is again consistent with empirical evidence showing that the appeal of such strategies is usually limited to younger shoppers (Gruen 1993). Analysis also found that SCP (M=3.7, SD=1.7) place greater importance on entertainment than both SSP (M=3.1, SD=1.8) and NPP (M=2.9, SD=1.7). This is consistent with the notion that many shoppers prefer shopping centres for their entertainment (Shim & Eastlick 1998; Swinyard 1998; Wakefield & Baker 1998). In the light of this finding, it was therefore not surprising that SE respondents (M=3.7, SD=1.9) assign more importance to entertainment than respondents from the SW (M=3.0, SD=1.7). There were no statistically significant differences in attitude for income and gender. With the exception of respondents from the SE, entertainment ranked last in importance across each of the segmentation variables (tables 6.15 and 6.16).

6.7.4 Discussion

The findings from section 4.5.5 provided preliminary insight into the importance of retail centre convenience by establishing that the retail form perceived as being most convenient was also typically the most preferred and frequented retail form. Analysis of respondents attitudes towards the five strategies provides further evidence of its importance. Convenience serves as the most important strategy, an attitude that is consistent across all segments. The social and entertainment strategies that are typically espoused as exerting greater influence over patronage behaviour, do not even serve as salient determinants (M<4) in the context of multi-purpose shopping. This attitude was also consistent across all segments. In fact, attitudes towards all five strategies were relatively consistent. Of the twenty-five independent sample T-tests and ANOVA tests used to test for consistency, only eight identified statistically significant differences and all were small in magnitude. Moreover, with just two exceptions, the way in which the strategies were ranked was identical across all segments. Of the eight statistically significant differences, three

originated from retail centre preference. In each case, SCP assigned greater importance to the strategy then SSP.

6.8 THE IMPORTANCE OF THE INDIVIDUAL ATTRIBUTES OF RETAIL CENTRE CONVENIENCE

6.8.1 Data Analysis Procedures

The second method used to address research question 4 and the influence of retail centre convenience over patronage behaviour is the importance assigned to its individual attributes in determining retail centre preference. Respondents were asked to indicate the importance of each attribute in deciding which retail centre they preferred to visit for a multi-purpose shopping trip. In order to determine their relative importance, the scales for convenience attributes and retail strategies were combined together under the same question. As part of the process of addressing question 5 and the consistency of respondents attitudes, independent-samples T-tests and one-way ANOVA tests will be used to determine whether consumer attitudes towards the eighteen test attributes vary across demographic and behavioural variables.

6.8.2 Checks for violations of assumptions

Details of compliance with the assumptions for independent-samples T-tests and one-way ANOVA tests were previously provided in sections 6.3.2 and 6.3.3.

6.8.3 Analysis of the importance of the attributes of convenience

The availability of parking places ranks as the most important convenience attribute (M=6.5, SD=.7). Moreover, it serves as the most salient attribute across all segments (table 6.19). In spite of this, there were two small statistically significant differences. The first related to income (table 6.19), with the lower-income group (M=6.6, SD=.7) assigning greater importance than the middle-income group (M=6.4, SD=.7). The second related to gender (table 6.19), with males (M=6.4, SD=.7) attributing lesser importance to parking availability than females (M=6.6, SD=.7; t (354) = 2.31, p=.02). Otherwise, the importance of parking availability was consistent across age, location and retail centre preference.

The speed and ease in travelling to a retail centre by public transport ranked as the second most important attribute (M=6.3, SD=1.1). However this ranking should be considered in the context of the relatively small percentage of respondents who use public transport for shopping (22%). Moreover, wider census data reveals that only 5.8% of Melbourne's consumers utilise public transport as their preferred means of travel when shopping (McLennan 2000). The importance of public transport is consistent across all variables except for income (table 6.20), with the lower-income group (M=6.6, SD=.8) assigning significantly more importance than the upper-income group (M=5.3, SD=1.5). This was one of only five statistically significant differences that rated above small in magnitude. Whereas most other segments rated public transport as their second most important variable, the upper-income group ranked it only sixth (table 6.19).

Table 6.19 The importance of convenience attributes by segment

		Gender		Age				Income			Location				Preference		
Attribute	AV	M	F	18-38	39-50	51-64	65+	L	M	U	NE	SE	SW	NW	SSP	SCP	NPP
Parking number	6.5	6.4	6.6	6.5	6.5	6.5	6.6	6.6	6.4	6.5	6.5	6.6	6.5	6.5	6.5	6.6	6.5
Public transport	6.3	6.2	6.3	6.2	6.2	6.2	6.4	6.6	6.2	5.3	6.4	6.4	6.0	6.4	6.4	6.2	6.1
Parking proximity	6.0	5.8	6.1	6.1	6.0	5.9	6.1	5.9	5.9	6.1	6.0	6.0	5.9	6.0	5.9	6.1	6.0
1 stop shopping	5.7	5.7	5.7	5.8	6.0	5.6	5.4	5.6	5.6	6.0	5.5	5.8	5.7	5.9	5.4	6.2	5.3
Parking type	5.6	5.4	5.7	5.5	5.5	5.6	5.9	5.8	5.5	5.4	5.9	5.7	5.3	5.5	5.4	5.8	5.5
Proximity	5.6	5.5	5.6	5.6	5.7	5.6	5.4	5.6	5.6	5.8	5.5	5.4	5.7	5.8	5.6	5.7	5.2
Compatibility	5.3	5.3	5.3	5.3	5.0	5.3	5.6	5.6	4.9	5.3	5.5	5.4	5.1	5.2	5.0	5.7	5.1
Enclosure	5.2	5.2	5.1	5.0	5.2	5.0	5.3	5.2	5.0	5.1	5.5	5.2	4.8	5.1	4.6	5.8	5.0
Trading hours	5.1	5.2	5.1	5.5	5.3	5.0	4.6	4.8	5.3	5.5	5.2	4.9	5.0	5.5	4.9	5.4	5.0
Design	5.0	4.8	5.1	4.7	4.5	5.3	5.5	5.3	4.7	4.8	5.1	5.0	5.0	4.7	4.7	5.2	5.1
Concentration	4.9	4.9	4.9	4.7	4.6	5.1	5.2	5.1	4.7	4.8	5.2	5.0	4.6	4.7	4.6	5.2	4.7
Lane number	4.7	4.8	4.7	4.5	4.4	4.9	5.2	5.0	4.5	4.6	5.1	4.9	4.5	4.5	4.3	5.2	4.7
Traffic controls	4.2	4.2	4.1	4.3	3.9	4.1	4.4	4.3	4.0	4.2	4.2	4.3	4.0	4.1	4.0	4.3	4.2
Size	4.0	4.0	4.0	3.4	3.8	4.3	4.5	4.2	3.9	3.6	4.4	4.0	3.9	3.6	3.9	4.1	4.0
Pedestrian areas	3.9	4.0	3.9	3.8	4.0	3.9	4.0	4.1	3.9	3.9	3.9	4.1	3.8	3.9	3.9	4.1	3.5
Speed limits	3.8	3.8	3.7	4.0	3.6	3.8	3.6	3.7	3.8	3.9	3.7	3.9	3.8	3.4	3.4	4.0	3.9
Shop. services	3.6	3.4	3.8	4.0	3.6	3.3	3.5	3.8	3.6	3.5	3.6	3.9	3.3	3.8	3.1	4.0	3.6
Store visibility	3.5	3.7	3.4	3.8	3.7	3.3	3.1	3.3	3.6	3.7	3.3	3.5	3.6	3.5	3.7	3.3	3.5

The distance between parking and stores was one of several spatial measures rated by consumers amongst the more salient attributes (M=6.0, SD=1.1). This attribute served as only one of five that distinguish between consumers according to gender (table 6.19), with males (M=5.8, SD=1.2) assigning it less importance than females (M=6.1, SD=1.1). Otherwise the importance of parking proximity was consistent across all other variables (table 6.20).

The ability of a retail centre to provide for one-stop shopping was the fourth most important attribute (M=5.7, SD=1.6). In the context of a multi-purpose shopping trip, the salience of this attribute is not surprising. While its ranking was relatively consistent across the various segments, there was some variation in mean scores. For example, the upper-income group (M=6.0, SD=1.3) assign greater importance to one-stop shopping than both the middle-income group (M=5.6, SD=1.7) and the lower-income group (M=5.6, SD=1.8). There was also a small difference among the four age groups, with the 39-50 age group (M=6.0, SD=1.3) attributing greater importance to this attribute than the 65-91 age group (M=5.4, SD=1.9). Analysis across retail centre preference identified a moderate difference between the mean scores of SCP (M=6.2, SD=1.3) and both SSP (M=5.4, SD=1.8) and NPP (M=5.3, SD=1.8). This was reflected in their rankings, with SCP ranking it second in importance, SSP sixth and NPP fifth. Such a variation in attitude is consistent with the academic proposition that one-stop shopping serves as a distinctive strength of the shopping centre (Levy & Weitz 1998). There were no variations across location (table 6.20) or gender (table 6.21).

Table 6.20 One-way ANOVA tests for the importance of convenience attributes

Attribute	Variable	DF(1)	DF(2)	F-score	Sig.	Eta-Sq.
Parking Availability.	Income	2	421	3.3	.04	.01
	Age	3	471	.66	.58	
	Location	3	476	.34	.80	
	Preference	2	461	2.4	.09	
Public transport	Income	2	107	11.6	<.001	.1
	Age	3	117	.15	.93	
	Location	3	118	.98	.41	
	Preference	2	114	.97	.38	
Parking Proximity	Income	2	418	.94	.39	
	Age	3	469	.88	.45	
	Location	3	474	.22	.89	
	Preference	2	460	.81	.45	
One-Stop Shopping	Income	2	471	3.3	.04	.01
	Age	3	528	3.5	.02	.02
	Location	3	535	1.3	.30	
	Preference	2	518	19.6	<.001	.07
Parking type	Income	2	424	2.6	.08	
	Age	3	476	2.6	.06	
	Location	3	481	4.3	.006	.03
	Preference	2	466	3.6	.03	.02
Proximity	Income	2	468	1.0	.36	
	Age	3	525	.98	.40	
	Location	3	532	1.1	.36	
	Preference	2	515	2.4	.09	
Compatibility	Income	2	469	7.3	.001	.03
	Age	3	504	4.4	.005	.03
	Location	3	531	1.7	.17	
	Preference	2	514	12.5	<.001	.05
Enclosure	Income	2	469	.91	.40	
	Age	3	525	.55	.65	
	Location	3	532	4.4	.005	.02
	Preference	2	515	31.1	<.001	.1
Trading Hours	Income	2	473	6.4	.002	.03
	Age	3	494	11.7	.001	.03
	Location	3	537	2.6	.05	.01
	Preference	2	520	4.3	.01	.02
Design	Income	2	466	6.0	.003	.03
	Age	3	522	10.5	<.001	.06
	Location	3	529	1.3	.29	
	Preference	2	514	12.5	<.001	.02
Concentration	Income	2	468	2.6	.07	
	Age	3	524	3.8	.01	.02
	Location	3	531	2.8	.04	.02
	Preference	2	514	7.4	.001	.03
Number of Lanes	Income	2	423	2.8	.06	
	Age	3	473	3.9	.009	.02
	Location	3	478	3.9	.009	.02
	Preference	2	463	10.9	<.001	.05
Traffic Control	Income	2	425	1.4	.26	
	Age	3	473	1.5	.23	
	Location	3	478	.50	.68	
	Preference	2	463	1.8	.16	.05

Table 6.20 (continued) One-way ANOVA tests for the importance of attributes

Attribute	Variable	DF(1)	DF(2)	F-score	Sig.	Eta-Sq.
Size < 400m	Income	2	467	4.7	.01	.02
	Age	3	522	10.3	<.001	.06
	Location	3	529	3.5	.02	.02
	Preference	2	512	.50	.61	
Pedestrian areas	Income	2	463	.86	.42	
	Age	3	517	.18	.91	
	Location	3	524	.61	.61	
	Preference	2	507	2.2	.11	
Speed	Income	2	423	.47	.63	
	Age	3	473	1.1	.35	
	Location	3	478	1.5	.21	
	Preference	2	463	6.2	.002	.03
Shopping Services	Income	2	423	.47	.63	
	Age	3	527	3.2	.02	.02
	Location	3	534	2.0	.11	
	Preference	2	518	10.9	<.001	.04
Visibility	Income	2	472	1.8	.16	
	Age	3	529	4.6	.004	.02
	Location	3	536	.67	.57	
	Preference	2	519	2.7	.07	

The type of parking available ranks as the fifth most important attribute (M=5.6, SD=1.5). As such, the three attributes of parking serve amongst the five most salient attributes of retail centre convenience. Analysis showed that females (M=5.7, SD=1.4) place greater emphasis on this attribute then do males (M=5.4, SD=1.6). Of the five attributes that significantly differentiate by gender, three relate to parking attributes. There were also statistically significant differences for retail centre preference, with SCP (M=5.8, SD=1.4) assigning greater importance to the type of parking available than SSP (M=5.4, SD=1.6). In spite of these differences, SSP and SCP both ranked it as their fifth most important attribute (table 6.19). Significantly, there were also differences for location, and these again appeared to be influenced by the predominant retail form in each zone. In line with the findings on retail centre preference, respondents from the shopping centre dominated NE (M=5.9, SD=1.3) assign greater importance to parking type than respondents from the shopping strip dominated SW (M=5.3, SD=1.8). There were no statistically significant differences for income or age (table 6.20).

The proximity of a retail centre ranks as the sixth most important attribute (M=5.6, SD=1.6). The consistent importance of proximity was evident across all variables. It should be noted however that while SSP (M=5.6) and SCP (M=5.7) assign it a similar mean score, SSP rank its importance three places above SCP as their fourth most salient influence (table 6.19).

Compatibility ranks as consumers seventh most important attribute (M=5.3, SD=1.6). While there were no statistically significant differences for location (table 6.20) or gender (table 6.21), there was for income, with the lower-income group (M=5.6, SD=1.5) assigning greater importance than the middle-income group (M=4.9, SD=1.7). This would prove to be the first of several attributes whereby lower-income consumers placed greater emphasis on intra-centre convenience. There were also small statistically significant differences for age with the 65-91 age group (M=5.6, SD=1.5) placing greater emphasis on this attribute than the 39-50 age group (M=5.0, SD=1.7). Such a difference is to be expected given that compatibility influences the physical effort involved in shopping. The importance of compatibility also varies according to retail centre preference, with SCP (M=5.7, SD=1.4) again placing greater value on an attribute than both SSP (M=5.0, SD=1.7) and NPP (M=5.1, SD=1.5). As with its perceived convenience, the increased

importance attributed to compatibility by SCP is consistent with the view that shopping centres offer greater store compatibility (Eppli & Benjamin 1994).

Table 6.21 Independent-sample T-tests for the importance of convenience attributes

ATTRIBUTE	GENDER	M	SD	DF	t-score	Sig.	Eta-Sq
Parking Availability	Female	6.6	.7	354	2.3	.02	.01
	Male	6.4	.7				
Public transport	Female	6.3	1.1	119	.79	.43	
	Male	6.2	1.1				
Parking Proximity	Female	6.1	1.1	332	2.7	.007	.02
	Male	5.8	1.2				
One-Stop Shopping	Female	5.7	1.8	486	.49	.63	
	Male	5.7	1.4				
Parking Type	Female	5.7	1.4	482	2.2	.03	.01
	Male	5.4	1.4				
Proximity	Female	5.6	1.7	532	.86	.39	
	Male	5.5	1.5				
Compatibility	Female	5.3	1.6	531	.01	.99	
	Male	5.3	1.5				
Enclosure	Female	5.1	1.9	459	.96	.34	
	Male	5.2	1.6				
Trading Hours	Female	5.1	1.9	455	.72	.47	
	Male	5.2	1.7				
Design	Female	5.1	1.7	529	2.2	.03	.01
	Male	4.8	1.6				
Concentration	Female	4.9	1.7	531	.34	.73	
	Male	4.9	1.7				
Number of Lanes	Female	4.7	1.9	401	.58	.56	
	Male	4.8	1.8				
Traffic Controls	Female	4.1	1.8	479	.67	.50	
	Male	4.2	1.8				
Size	Female	4.0	1.9	529	.25	.80	
	Male	4.0	1.9				
Pedestrian Areas	Female	3.9	2.0	524	.18	.86	
	Male	4.0	1.9				
Speed Limits	Female	3.7	1.8	479	.58	.57	
	Male	3.8	1.7				
Shopping Services	Female	3.8	2.2	467	2.1	.03	.01
	Male	3.4	1.9				
Store Visibility	Female	3.4	1.8	536	1.79	.07	
	Male	3.7	1.8				

The eighth most important attribute is enclosure (M=5.2, SD=1.8). As with their perceptions of its convenience, SSP (M=4.6, SD=1.9) and SCP (M=5.8, SD=1.4) also significantly differ in the importance they assign to this attribute. Moreover, this followed on to their rankings, with SSP ranking it eleventh and SCP sixth (table 6.19). There were also small differences across location, and these again mirrored respondents local retail environment. Respondents from the SW (M=4.8, SD=1.9) perceive less value in enclosure than do those from the NE zone (M=5.5, SD=1.7). The importance of enclosure was otherwise consistent across age, income (table 6.20) and gender (table 6.21).

Trading hours serve as the ninth most important attribute (M=5.1, SD=1.8). As with their perceived convenience, there was variation across most of the segments, although the magnitude of differences was always small. Analysis showed that the lower-income group (M=4.8, SD=2.0) place significantly less emphasis on extended trading hours than the upper-income group (M=5.5, SD=1.7). There was also a small statistically significant difference for age, with the 18-38 age group (M=5.9, SD=1.1) assigning greater importance than the 65-91 age group (M=5.3, SD=1.4). The lower utility assigned to extended trading hours by the 65-91 age group could

be due to their ability to shop during normal trading hours (due to retirement), or the perceived risk of shopping during the evening. Such was the impact of these differences that whereas trading hours rank eighth in importance in general, they only rank eleventh for both the lower-income and older age group (table 6.19). Respondents from the SE (M=4.9, SD=2.0) assign significantly less importance to trading hours than those from the NW (M=5.5, SD=1.6). Rather then differences between the two retail forms accounting for this, the explanation may lie in differences within one of the retail forms. Shopping strips in the NW have longer trading hours then those in the SE. Consistent with the dominant retail form in each of these zones, SCP (M=5.4, SD=1.8) assign greater importance than SSP (M=4.9, SD=1.9) to extended trading hours. It must be noted however that in terms of rankings, SSP (8th) actually rank trading hours above SCP (9th) in importance. Gender served as the only segment that did not differ in their attitude towards the importance of trading hours (table 6.21).

The design of a retail centre serves as consumers tenth most important attribute (M=5.0, SD=1.7). Significantly, it is the first convenience attribute to record a lower mean score than any of the four alternative strategies. In this regard, it ranks just below lower prices in salience. Design provided one of the five examples of an attribute differing in importance according to gender (table 6.21), with females (M=5.1, SD=1.7) again assigning greater importance than males (M=4.8, SD=1.6). The lower-income group (M=5.3, SD=1.6) assign greater importance to a compact design than both the middle-income (M=4.7, SD=1.8) and upper-income group (M=4.8, SD=1.6). This provided further indication that when differences do occur across income it is due to the lower-income group assigning greater importance to intra-centre spatial measures (e.g. compatibility, design and size) and the upper-income group assigning greater importance to temporal measures (e.g. one-stop shopping and trading hours). This is consistent with the notion that the lower-income group have limited transport options while the upper-income group have limited temporal options. There was also further indication that consumers assign greater importance to intra-centre spatial convenience as they progress through their lifecycle with both the 18-38 age group (M=4.7, SD=1.6) and the 39-50 age group (M=4.5, SD=1.7) attaching less importance than the 51-64 (M=5.3, SD=1.6) and 65-91 age groups (M=5.5, SD=1.6). Moreover, although the magnitude of this difference was only moderate (eta-squared value=.06), in relative terms it serves as one of the larger variations in salience. In fact, the oldest of the four groups differed to all other segments by ranking a compact design as their fifth most important attribute (table 6.19). There was also a statistically significant difference across retail centre preference with SCP (M=5.2, SD=1.6) again assigning greater importance to a convenience attribute than SSP (M=4.7, SD=1.8). This is a logical outcome given that shopping centres have been characterised by their compact design (Maitland 1985). In spite of this, SSP (9th) rank it higher in importance then SCP (11th). There were no statistically significant differences for location.

Concentration serves as the eleventh most important attribute (M=4.9, SD=1.7). While there were no statistically significant differences across income (table 6.20) and gender (table 6.21), there was across age. Consistent with the emergent trend for younger shoppers to assign lesser importance to spatial attributes, the 39-50 age group (M=4.6, SD=1.8) recorded a lower mean score than the 65-91 age group (M=5.2, SD=1.8). There were again statistically significant differences for both location and retail centre preference. Analysis showed that SCP (M=5.2, SD=1.5) assign greater importance to segregating retail and non-retail functions than SSP (M=4.6, SD=1.9). This is consistent with the academic view that the shopping centre is characterised by the deliberate spatial juxta positioning of its firms (Brown 1993). In line with this, respondents from the shopping strip dominated SW zone (M=4.6, SD=1.8) place less emphasis on concentration than those from the NE zone

(M=5.2, SD=1.6). In spite of these differences, SSP and SCP assign identical rankings (10th) to its importance (table 6.19).

While studies have espoused the importance of access (e.g. Gautschi 1981), the highest rating of the three car-access attributes was the number of lanes, which ranked just twelfth in importance (M=4.7, SD=1.5). While there were no statistically significant differences for income (table 6.20) and gender (table 6.21), there was among the four age groups. Somewhat surprisingly the 65-91 age group (M=5.2, SD=1.8) regard this attribute as being more important than do the 39-50 age group (M=4.4, SD=1.9). One possible explanation for this is that 65-91 age group bases its importance in its perceived safety rather than its time-saving potential. There was also a small statistically significant difference for location, with the importance of an attribute again reflecting the characteristics of the dominant retail form within a geographic area. In the SW zone, the many shopping strips are located on single lane roads and so not surprisingly, respondents from this zone assign less importance to the number of lanes (M=4.5, SD=1.9), than do those from the NE zone (M=5.1, SD=1.77) where its shopping centres are located on dual lane roads. In line with this, analysis by retail centre preference also identified statistically significant differences with SCP (M=5.2, SD=1.7) placing greater emphasis on the number of lanes than SSP (M=4.3, SD=2.1). Again, in spite of this difference, SSP (11th) assign a higher ranking to this attribute then SCP (12th) (table 6.19).

The methods used to control traffic rank thirteenth in importance (M=4.2, SD=1.8). Despite representing the last salient convenience attribute, it still ranks above social and entertainment strategies in terms of its influence over retail centre preference. The relative lack of importance assigned to traffic controls was consistent across all variables.

The size of the retail centre rated as the least important spatial attribute, ranking fourteenth in importance (M=4.0, SD=1.9). Significantly, it was the first of five attributes regarded as less-than-salient by respondents (table 6.19). This finding must be qualified however. Consistent with previous findings, older, lower-income respondents recorded higher mean scores for a spatial attribute. Analysis revealed that the 51-64 age group (M=4.3, SD=1.9) and the 65-91 age group (M=4.5, SD=2.0) actually regard the size of a centre as salient whereas the 18-38 age group (M=3.4, SD=1.7) and 39-50 age group (M=3.8, SD=1.8) do not. Moreover an eta-squared test measured this statistically significant difference as a medium effect. Similarly, lower-income respondents (M=4.2, SD=2.0) report being influenced by the size of a retail centre whereas upper-income respondents do not (M=3.6, SD=1.7). There were also statistically significant differences for location, with respondents from the NE zone (M=4.4, SD=1.9) placing greater emphasis on size than those from the NW zone (M=3.6, SD=1.9). Although there were no differences for retail centre preference, locational differences could again be due to the characteristics of the prevalent retail form in each zone. In the NE zone where shopping centres are dominant, respondents place greater emphasis on a compact size: a characteristic of many shopping centres (Weiss 1996). There was no statistically significant difference for gender (table 6.21). This attribute served as one of only three variables alongside traffic controls and pedestrian areas where the attitude towards its overall salience (e.g. M>4 or M<=4) was not consistent across all segments (table 6.19).

The availability of pedestrian areas rank fifteenth in the list of convenience attributes (M=3.9, SD=1.9). Its salience is consistent across all variables, including retail centre preference. In doing so it provided a rare example of an attribute that clearly distinguishes between the two retail forms failing to differentiate the attitudes of SSP

and SCP. While the shopping centre is characterised by its pedestrian malls, its patrons assign no more significance to it than SSP.

The speed limits along access routes rate as the least important car-access attribute and the third least important attribute overall (M=3.8, SD=1.8). Significantly, speed limits are not regarded as a convenience attribute. Attitudes towards its importance were consistent across age, income, location (table 6.20) and gender (table 6.21). In spite of a statistically significant difference for SSP (M=3.4, SD=1.8) and SCP (M=4.0, SD=1.7) it was too small to alter the general attitude that higher speed limits are not a salient influence.

Shopping services rank as the second least important attribute (M=3.6). However, this ranking must be considered in light of two factors. Firstly, despite serving as the least important convenience attribute (speed limits and store visibility do not figure as convenience attributes), shopping services still out rank social (M=3.6) and recreational strategies (M=3.4) in salience. Secondly, there was significant variation across attitudes (SD=2.1). Given that many such services are designed for shopping parents (e.g. child-minding, baby change areas, pram hire), it was not surprising that females (M=3.8, SD=2.2) regard them as more important than do males (M=3.4, SD=1.9). In each of the five instances where males and females differed in the importance assigned to a convenience attribute (table 6.21), it was the latter that assigned greater salience. This casts doubts over the proposition that males are more discerning shoppers (Underhill 1999). It should be noted however that females still rated shopping services as less-than-salient. Analysis across the four age groups provided further support for the proposition that shopping services are more important to young parents by revealing statistically significant differences between the 18-38 age group (M=4.0, SD=2.0) and the 51-64 age group (M=3.3, SD=2.1). The fact that there were no statistically significant differences between the youngest and the oldest age group (e.g. the 65-91 age group) can be attributed to the fact that many shopping services are also targeted to the older consumer. Given the added importance assigned to shopping services by younger females, further analysis was conducted to determine if its salience was influenced by gender and age. However a one-way ANOVA test showed that the importance of this attribute to females does not differ significantly according to age [F (3, 331) = 2.0, p=.12]. Analysis by retail centre preference did reveal statistically significant differences with SCP (M=4.0, SD=2.0) assigning greater importance than SSP (M=3.1, SD=2.0). In effect the only segment to assign any salience to shopping services was those who prefer shopping centres (table 6.19). There was no statistically significant difference for income or location (table 6.20).

The visibility of stores when travelling to or through a retail centre rated as the least important of the eighteen attributes (M=3.5, SD=1.8). This attitude was consistent across income, location, retail centre preference (table 6.20) and gender (table 6.21). Although there was a small statistically significant difference between the 18-38 age group (M=3.8, SD=1.5) and the 65-91 age group (M=3.1, SD=1.9), it did not alter the overall attitude that store visibility is a less than salient attribute. As was the case with pedestrian areas, there was a break in the trend for distinctive retail attributes to differentiate the attitudes of SSP and SCP. Retailers in shopping centres are at a potential disadvantage because their inward orientation renders them invisible to passing traffic. Unfortunately for the shopping strip, one of the few attributes that provide it with a potential competitive advantage does not exert a strong influence over patronage behaviour.

6.8.4 Discussion

The findings from section 6.4 established that retail centre convenience consists of fifteen attributes. Parking type was included as a sixteenth attribute based on a review of literature and pre-test findings. Analysis of their importance reveals that thirteen serve as salient influences (M>4) over patronage behaviour in the context of multi-purpose shopping. The only convenience attributes that are not regarded as salient are retail centre size and the provision of pedestrian areas and shopping services. Even then, all three still rate higher in importance then social and entertainment strategies. Store visibility and speed limits, the two test attributes that respondents do not regard as convenience attributes, are not regarded as important either. While economic and aesthetic factors both serve as salient strategies, nine convenience attributes rank above economic factors in importance and twelve rank above aesthetic factors. As such, not only does convenience in general serve as a preferred alternative to the other rejuvenation strategies, so too does many of its individual components.

The influence of the eighteen test attributes is relatively consistent across gender, age, income, location and retail centre preference. In all, eighty-five separate independent sample T-tests and one-way ANOVA tests were conducted to determine whether the importance of these attributes varied according to demographic and behavioural variables. While statistically significant differences were identified in thirty-eight of these tests, such differences were typically so small as to have little impact on the overall importance assigned to each attribute. This was evident in the low eta-squared values associated with the vast majority of statistically significant differences, with only five measuring other then small in magnitude. This meant that consumers in general were consistent in their attitudes towards those attributes that were important (M>4) and those that were not (M<=4). The one exception was the importance of retail centre size. Lower-income respondents, those aged 65-91 and those from the NE zone do regard it as important (M>4).

Several patterns also emerged across the five segmentation variables. Age accounted for nine of the thirty-eight statistically significant differences. Older consumers assign greater value to compatibility, concentration, size and design. This is a logical outcome given that each of these attributes minimise the physical effort involved in intra-centre travel. Younger consumers place greater emphasis on temporal attributes such as one-stop shopping, store visibility and trading hours. Income accounted for seven of the differences, with a similar pattern emerging. Analysis revealed that lower-income respondents place greater emphasis on spatial attributes such as store compatibility and the size and design of a retail centre, while higher-income earners assign greater importance to temporal attributes such as one-stop shopping and trading hours. Six of the differences originated from location. In all but one of these, the importance assigned to an attribute mirrored the characteristics of the dominant retail form in each zone. On each of these five occasions, the more prevalent an attribute was in respondents immediate retail environment, the higher the mean score assigned to its importance. Gender accounted for five differences, with females assigning greater importance to a convenience attribute on each occasion. Three of these five differences related to parking attributes. Of all the variables used to test for the consistency of salience, retail centre preference showed the greatest propensity for variation in mean scores. Of the thirty-eight statistically significant differences, eleven originated from retail centre preference. In each case, the difference was due to SCP assigning significantly more importance to a convenience attribute then SSP.

6.9 THE RELATIONSHIP BETWEEN THE CONVENIENCE AND IMPORTANCE OF THE ATTRIBUTES

6.9.1 Data Analysis Procedures

As an additional means of addressing research question 4, a third method was employed to measure the importance of retail centre convenience. This method seeks to determine the relationship between the convenience and importance of retail centre attributes. If convenience does serve as a salient influence, then the importance of its attributes should correlate with their degree of convenience. Correlation coefficients will be computed to test this proposition.

6.9.2 Checks for violations of assumptions

Details of compliance with the assumptions for correlation analysis were previously provided in section 6.6.2.

6.9.3 Analysis and discussion of the relationship between the convenience and importance of retail centre attributes

The results of the correlation analyses (table 6.22) show that all sixteen correlations were statistically significant. Furthermore, all correlations exceeded 0.5 in value indicating them to be large (Green et al 2000). The results suggest that the importance of an attribute mirrors its degree of convenience - the more convenient it is, the greater the importance assigned to it. Given the relationship between the convenience and importance of an attribute, this finding suggests that the convenience of parking type can be inferred from the relatively high importance respondents assign to it.

Table 6.22 Correlation of the convenience and importance of retail centre attributes

Attribute	N	Pearson Correlation	Sig (1-tailed)
Parking number	476	.631*	<.001
Public transport	117	.664*	<.001
Parking proximity	478	.695*	<.001
Proximity	532	.620*	<.001
One-stop shopping	539	.611*	<.001
Compatibility	534	.659*	<.001
Trading hours	541	.632*	<.001
Enclosure	534	.709*	<.001
Lane number	482	.725*	<.001
Concentration	535	.555*	<.001
Design/ Size	532	.541*	<.001
Traffic controls	481	.681*	<.001
Pedestrian areas	524	.643*	<.001
Shopping services	537	.746*	<.001
Speed limits	481	.782*	<.001
Store visibility	540	.656*	<.001

* Correlation is significant at the 0.01 level (1-tailed).

6.10 THE IMPORTANCE OF ATTRIBUTES WHEN CONFLICT EXISTS

6.10.1 Data Analysis Procedures

Analysis to this point indicates that the majority of test attributes exert a salient influence over patronage behaviour. However some of these attributes are conflicting by nature and therefore serve as a potential source of confusion for practitioners seeking to establish an optimal combination of attributes. For example, in the absence of compatibility and concentration, consumers desire for a retail

centre offering all stores necessary for one-stop shopping conflicts with the desire for a centre that is compact in size. In this situation, the practitioner needs to know the relative importance of each attribute, and whether a statistically significant difference exists between the two. A paired-samples T-test will be used for this purpose.

A similar conflict occurs with enclosure, parking proximity, the provision of pedestrian areas and store visibility from access routes. These four attributes cannot exist simultaneously in a shopping strip, and can only do so in a shopping centre where stores face outwards – a situation unknown in Australia to the researcher. An enclosed centre with inward facing stores offers a dedicated pedestrian area but also remote parking and no store visibility. This suggests that retail planners can pursue convenience in the form of enclosure and pedestrian areas, or convenience in the form of store visibility and parking proximity, but not both. A within-subjects one-way ANOVA test will be used to test for statistically significant differences in the importance assigned to enclosure, parking proximity, pedestrian areas and store visibility.

6.10.2 Checks for violations of assumptions for Paired-Samples T-Tests

The same assumptions that apply to the paired-samples T-test apply to T-tests in general (Green et al 2000). The procedure for compliance with each of these criteria was previously detailed in section 6.3.2.

6.10.3 Checks for violations of assumptions for Within-Subjects One-Way ANOVA

The assumptions that apply to One-Way Between Groups ANOVA also apply to a Within-Subjects One-Way ANOVA test (e.g. random sampling and a normally distributed population). Compliance with theses assumptions was discussed in section 6.3.3. A Within-Subjects One-Way ANOVA test also carries the assumption of sphericity.

6.10.3.1 Sphericity
A *Within-Subjects One-Way ANOVA* test violates the general ANOVA assumption of independent groups because scores come from the same respondent. As this undermines the accuracy of the F-Test, an additional assumption is made that the relationship between pairs of scores is similar. Mauchly's test of sphericity was used to test this assumption. The resultant value of .875 was significant ($p < 0.05$) indicating that this assumption had been violated. The Bonferroni test was therefore used for post-hoc comparisons due to its robustness when sphericity has been violated, especially in regards to power and control of type 1 errors (Field 2000).

6.10.4 Analysis and discussion of mean scores for conflicting attributes

The paired-samples T-test found that the importance assigned to one-stop shopping (M=5.8, SD=1.6) was significantly greater than that assigned to a centre compact in size (M=4.0, SD=1.9) (t = 21.39, df = 494, p < .001, two-tailed). In fact, whereas one-stop shopping serves as a salient attribute, limiting the size of a retail centre does not.

The Within-Subjects One-Way ANOVA test found a statistically significant difference for the importance assigned to the four attributes, Wilks Lambda = .38, F (3, 1298), p < .001, multivariate eta-squared = .36. Post-hoc comparisons indicate that the mean score for all four attributes; parking proximity (M=6.0, SD=1.1), enclosure (M=5.2, SD=1.8), pedestrian areas (M=3.9, SD=1.9) and store visibility (M=3.5,

SD=1.7) are significantly different. Based on this finding, consumers would ideally prefer an enclosed retail centre with outward facing stores for their direct access to parking sites. Neither of the two retail forms within the geographic sampling frame of this study is able to satisfy this need.

6.11 THE RELATIVE IMPORTANCE OF ATTRIBUTES BY RETAIL CENTRE PREFERENCE

6.11.1 Data Analysis Procedures

Analysis has to this point, focused on the importance of convenience attributes in the context of various segmentation variables. Of these, retail centre preference is arguably the most important because it represents the behavioural response to attribute evaluations. Moreover, analysis has shown that it accounts for the greater proportion of variations in beliefs and attitudes. It is essential to determine the importance of the attributes in the context of retail centre preference because specific attributes may exert little if any influence over patrons of a specific retail form. For example, simply knowing that consumers in general regard enclosure as a salient attribute is of limited use to practitioners if this attribute exerts no influence over shopping strip patrons. Moreover, such knowledge will help place the findings from the supply-side analysis in context. If for example the supply-side analysis revealed that shopping centres enjoy a relative advantage in terms of one-stop shopping, such a finding proves less critical if SSP assign less importance to it. It is therefore necessary to determine which attributes distinguish between SSP, SCP and NPP. Discriminant analysis will be used for this purpose.

6.11.2 Checks for violations of assumptions

6.11.2.1 Variables are multivariately normally distributed for each of the populations, with the different populations defined by the levels of the grouping variable.
In reality, this assumption is rarely met. Given the large sample size however, discriminant analysis can be expected to yield relatively valid results in terms of type 1 errors (Green et al 2000). Regression analysis and Mahalanobis distance identified 30 multivariate outliers, which were then excluded. Of these, 16 were SSP, 11 were SCP and 3 were NPP.

6.11.2.2 Population variances and covariances among the dependent variables are the same across all levels of the factor.
Box's M was used to test homogeneity of variance-covariance matrices. Although the F test from Box's M should be interpreted cautiously, this requirement is less stringent when dealing with a larger sample (Green et al 2000). The Box's M statistic (Sig = .011) indicated that this assumption had not been violated (p > .001).

6.11.2.3 Ratio of cases to predictor variables
Because discriminant analysis is sensitive to sample size, the suggested minimum ratio for respondents to independent variables is 20-to-1. With 407 effective cases and 17 independent variables, this provides a ratio of almost 24-to-1. It is also necessary to consider the sample size of SSP, SCP and NPP. Given that the sample size of the smallest group (NPP) exceeds 20 it does not violate any assumption relating to group size (Hair et al 1998).

6.11.3 A discriminant analysis of mean scores by retail centre preference

A direct discriminant function analysis was performed using seventeen of the eighteen importance variables as predictors of membership in three groups. The importance of public transport was excluded because it effectively reduced the sample size from 407 to 93. Groups were consumers who preferred shopping strips, consumers who preferred shopping centres, and consumers with no specific preference for either.

Of the original 541 cases, 93 were excluded from the analysis due to either missing data for an independent variable (these were patrons, who in only using public transport were unable to provide responses to access and parking attributes), or dependent variable (11 respondents failed to provide an answer for their most preferred retail centre). A further 30 cases were excluded as multivariate outliers. Of the remaining 407 cases, 168 were SSP, 195 were SCP and 44 were NPP.

Although two discriminant functions were calculated, only the first function was significant at $p < .001$. It explained 86% of the between-group variability and maximally separated SSP and SCP (table 6.23). The structure matrix (table 6.24) suggests that the best predictors for distinguishing between SSP and SCP are the differing levels of importance assigned to enclosure (M=4.7 and 5.9 respectively), one-stop-shopping (M=5.5, M=6.2), the number of lanes (M=4.3, M=5.1), store compatibility (M=5.1, M=5.7), concentration (M=4.6, M=5.3), design (M=4.7, M=5.3) and shopping services (M=3.2, M=4.0). In each case, SCP are distinguished by the increased importance assigned to these attributes, suggesting that SSP are less discerning - at least in regard to these criteria. Loadings less than .3 were not interpreted (Tabachnick & Fidell 2001).

Table 6.23 The significance of the discriminant functions

Function Number	Eigen-value	Percent of Variance	Canonical Correlation	Wilk's Lambda	Chi-Square	Sig
1	.258	85.6	.453	.762	107.6	.000
2	.043	14.4	.204	.958	16.8	.398

Table 6.24 Within group correlations

Variables	Function 1	Function 2
Enclosure	.714	
One-stop shopping	.500	
Number of lanes	.432	
Concentration	.413	
Compatibility	.412	
Design	.376	
Shopping services	.369	
Parking Type	.318	
Trading hours	.257	
Parking number	.256	
Traffic controls	.207	
Store visibility	-.186	
Parking proximity	.169	
Proximity		.526
Speed limits		-.457
Pedestrian areas		.178
Size		-.160

While the second function discriminated NPP from SSP and SCP (table 6.23), it explained just 14% of the variance and was not significant, χ^2 (16) = 17, p = .40. Interpretation was therefore limited to the first function only (Coakes & Steed 1999).

Table 6.25 Centroids of retail centre preference in discriminant space

Most preferred retail centre	Function 1	Function 2
Shopping Strips	-.544	.104
Shopping Centres	.521	.045
No preference	-.192	-.583

The classification procedure for the total useable sample of 407 respondents classified 260 correctly (64%), compared to 166 (41%) who would be correctly classified by chance alone. When the classification accuracy for individual groups was examined, the procedure performed significantly better than chance in predicting both SCP and SSP, and significantly worse in predicting NPP (table 6.26). In order to take into account chance agreement, a kappa coefficient was computed. The resultant value of .34 is moderately small (Green et al 2000). To determine how well the classification procedure would predict in a new sample, the percent of patrons accurately classified using the leave-one-out technique was also estimated, with 60% of cases correctly classified.

Table 6.26 Classification accuracy

Groups	Chance Probability	% Correctly Classified
All groups	41	64
Shopping Strip preference	42	57
Shopping Centre preference	47	85
No preference	11	0

6.12 FACTORS THAT DETERMINE RETAIL CENTRE PREFERENCE

6.12.1 Data Analysis Procedures

The conceptual framework developed in chapter 3 is based on the proposition that consumer attitudes towards convenience attributes influence retail centre preference. Logistic regression was used to test this proposition. In order to determine the relative importance of convenience, demographic variables were also included in the analysis. To determine their separate influence, attitudinal and demographic data were entered in two blocks. Analysis was performed using SPSS, and was limited to those with an express preference for either shopping strips or shopping centres.

6.12.2 Checks for violations of assumptions

6.12.2.1 The ratio of cases to predictor variables

Logistic regression is also sensitive to sample size (Tabachnick & Fidell 2001). Of the original 541 cases, 56 were excluded for indicating no particular preference, 11 for non-response to retail centre preference, and 93 for utilising public transport only. With 381 effective cases, it offered a ratio of 22-to-1 for each of the seventeen independent variables. This exceeded the minimum acceptable ratio for logistic regression (Hair et al 1998).

6.12.2.2 Multicollinearity

Multicollinearity was assessed by examining the correlation matrix for high correlations among the independent variables (Coakes & Steed 2001). It was also assessed by checking the size of the standard errors of the parameters. Analysis indicated no problem with convergence nor was the standard errors for parameters exceedingly large, thereby indicating that the assumption of multicollinearity had not been violated (Tabachnick & Fidell 2001).

6.12.3 The relationship between convenience attributes and retail centre preference

A direct logistic regression analysis was performed using retail centre preference as the outcome. Demographic variables and attitudes towards the importance of the seventeen attributes (public transport was again omitted) served as the predictors. Of the 381 cases available for analysis, 200 were SCP and 181 were SSP.

A test of the model with all seventeen attribute ratings against a constant-only model was statistically reliable, χ^2 (16, N = 381) = 89.66, p < .001, indicating that the predictors as a set, reliably distinguished between SSP and SCP. Prediction success was relatively impressive, with 65.2% of SSP and 75% of SCP correctly predicted, for an overall success rate of 70.3%. The model showed reliable improvement with the addition of demographic predictors, χ^2 (8, N = 381) = 102.74, p < .001. Prediction success increased to 68% for SSP, 78% for SCP and 73.2% overall.

Table 6.27 provides summary statistics for the eight predictors that significantly predicted retail centre preference (p < .05). While three of the eight predictors are demographic variables, all three relate to respondents residential zone. These are the northeast (z = 18.81, p < .001), southwest (z = 9.31, p = .002), and northwest zones (z = 11.66, p = .001). The model indicates that retail centre preference can be predicted from shoppers residential zone. The positive coefficients for the northeast and southeast indicate that respondents from these zones are more likely to prefer shopping centres. The negative coefficient for the southwest indicates a stronger preference for shopping strips among residents from this zone

Table 6.27 Logistic regression analysis of retail centre preference as a function of attitudinal and demographic variables

Variable	Beta Coefficient	Standard Error	Wald Statistic	Sig.	Exp(B)	95% C.I Lower	95% C.I Upper
One-stop shop	.201	.091	4.86	.028	1.223	1.022	1.462
Enclosure	.316	.087	13.18	.000	1.372	1.157	1.628
Visibility	-.276	.078	12.53	.000	.758	.651	.884
Services	.147	.069	4.46	.035	1.158	1.011	1.327
Traffic lanes	.153	.068	5.11	.024	1.166	1.021	1.331
Northeast	.323	.205	18.81	.000	1.381	.923	2.065
Southeast	.605	.198	9.31	.002	1.831	1.242	2.700
Southwest	-.694	.203	11.66	.001	.500	.335	.744

The five attribute predictors are one-stop shopping (z = 4.86, p = .028), enclosure (z = 13.18, p < .001), store visibility (z = 12.53, p < .001), shopping services (z = 4.46, p = .035), and the number of lanes (z = 5.11, p = .024). A model run with each of these predictors omitted was reliably different from both the constant-only model, χ^2 (1, N = 381) = 204, p < .001, and the full model χ^2 (1, N = 381) = 168, p < .001. This confirms the finding that the importance assigned to the five attributes of one-stop shopping, enclosure, store visibility, shopping services and the numbers of lanes, in

combination with residential location are the only reliable predictors among the attitudinal and demographic variables.

Table 6.28 shows the relationship between retail centre preference and the five attribute predictors. SCP are more likely to assign greater importance than SSP to one-stop shopping (M=6.2 and M=5.4 respectively), enclosure (M=5.8, M=4.6), shopping services (M=4.0, M=3.1), and the number of lanes (M=5.2, M=4.3). Ironically, visibility, the one attribute that SSP (M=3.7) assign greater importance to than SCP (M=3.3), is one of the few attributes not regarded as contributing to convenience.

Table 6.28 Mean scores for attribute importance as a function of retail centre preference

	Centre	Preference
Attribute	SSP	SCP
One-stop shop	5.4	6.2
Enclosure	4.6	5.8
Visibility	3.7	3.3
Services	3.1	4.0
Traffic lanes	4.3	5.2

6.13 SUMMARY

The data analysis utilised a variety of methods to examine how consumers define retail centre convenience and the importance they assign to it. One-sample T-tests were used to address Proposition 1 that retail centre convenience comprises dimensions that represent the non-financial costs of patronising a centre. Analysis provided support for this proposition with respondents defining the dimensions of retail centre convenience in terms of its three non-financial costs - temporal, spatial and effort. Significantly, these findings coincide with the three dimensions used to define convenience across a variety of consumption situations (Gehrt & Yale 1993). ANOVA and independent-sample T-tests were then used to address Research Question 2 as to whether the dimensions of retail centre convenience differ across demographic and behavioural variables. Analysis revealed that beliefs are consistent across age, income, education, gender, location and retail centre preference.

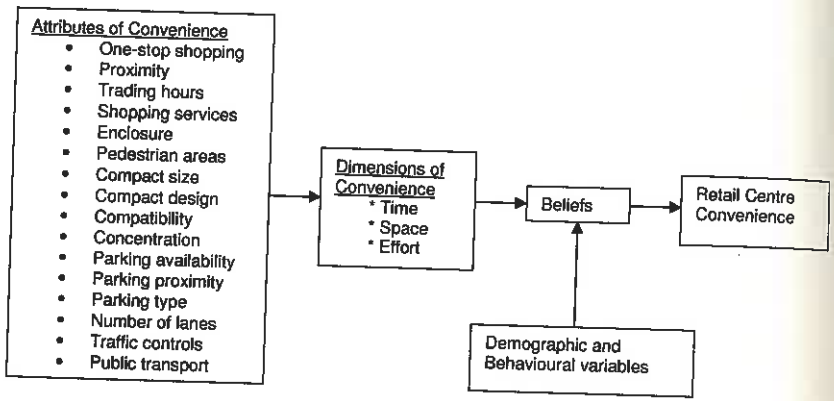
One-sample T-tests and correlations were used to address Proposition 2 that retail centre convenience comprises attributes that determine the non-financial costs of patronising a centre. Analysis of the one-sample T-tests provided general support for this proposition with all but two of the hypothesised attributes regarded by respondents as influencing the convenience of a retail centre. The only test attributes that did not contribute to retail centre convenience were higher speed limits and store visibility. As such, retail centre convenience can be defined as consisting of fifteen attributes. A sixteenth attribute was added to the list on the basis of a review of literature and pre-test results. This definition provides a significant contrast to previous studies, none of which utilised more then four attributes in defining retail centre convenience. The correlations also provided general support for Proposition 2 with analysis indicating that a relationship exists between the attributes and dimensions: the greater the degree of convenience associated with an attribute the greater its influence over the dimensions of convenience.

ANOVA and independent-sample T-tests were used to address Research Question 3 as to whether the attributes of retail centre convenience differ across demographic and behavioural variables. Analysis revealed relatively few statistically significant

differences in respondents beliefs towards the attributes, and these were generally small in magnitude. They did indicate however that beliefs do vary according to demographic and behavioural variables. For example, although the size and design of a retail centre and the shopping services it offers are perceived on the whole as convenience attributes, this belief is not universal across age, gender, location and preference. Of the five variables used to measure the consistency in beliefs, variations were most commonly due to retail centre preference. On each of these occasions, SCP assigned greater convenience to an attribute then SSP.

In combination, the data used to address Research Questions 2 and 3, and Research Propositions 1 and 2 can be used to address Research Question 1 as to how consumers define retail centre convenience. Consistent with the generic meaning assigned to convenience, consumers perceive retail centre convenience as occurring when the non-financial costs of patronage are minimised. There are sixteen attributes of a retail centre that determine these costs and therefore its convenience (figure 6.1). However the convenience of these attributes is not consistent across all respondents and so demographic and behavioural variables such as age, income, gender, location and preference can moderate the meaning of retail centre convenience.

Figure 6.1 Definition of retail centre convenience



To address Research Question 4 and the importance of retail centre convenience, three methods of analysis were utilised. Firstly, analysis focused on respondents attitudes towards the five strategies commonly used in the design and rejuvenation of retail centres. In the context of multi-purpose shopping, retail centre convenience was found to serve as the most influential strategy. This adds further weight to the findings relating to the relationship between convenience, preference and trip behaviour (sections 4.5.5, 6.2.2 and 6.2.3). Analysis from these sections revealed that respondents are more likely to prefer and frequent the retail form they perceive as being most convenient.

In part answer to Research Question 5 and the issue of whether its importance varies according to demographic and behavioural variables, this attitude was consistent across all segments. Of the five variables used to measure the consistency of attitudes, variations were again most commonly associated with retail centre preference. SCP assign greater importance to economic, social and entertainment strategies then do SSP.

The second method of analysis in addressing Research Question 4 focused on the importance of the individual attributes of convenience in determining retail centre preference. Of the sixteen retail centre convenience attributes, thirteen were identified as salient influences over patronage behaviour. Moreover, despite merely serving as individual components of retail centre convenience, many exert a stronger influence over patronage then economic and aesthetic factors, and all are regarded as being more important then social and entertainment strategies.

Correlation analysis was used as a third method for measuring the importance of convenience. It was employed to test the notion that if the attributes of convenience do serve as salient influences, then their importance should correlate with their degree of convenience. Analysis provided support for this proposition, indicating that the more convenient an attribute is, the greater the importance respondents assign to it.

ANOVA and independent-sample T-tests were used to determine whether the importance of the convenience attributes of a retail centre differ across demographic and behavioural variables (Research Question 5). Variations in attitude were detected in almost one in every two tests used to measure the consistency assigned to the importance of each of the convenience attributes. However these differences were typically so small that consumers in general were consistent in their attitudes towards those attributes that were important and those that were not. The one exception was retail centre size, with its importance varying according to income, age and location.

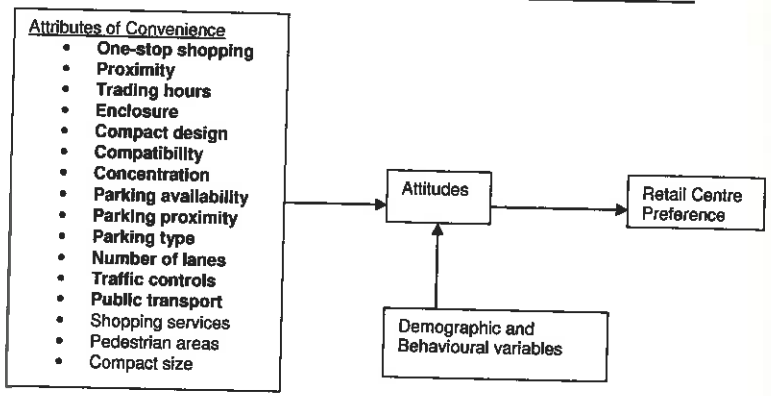
In spite of the small magnitude of the vast majority of statistically significant differences, several key patterns emerged across the five segmentation variables. Older consumers and those that earn lower-incomes assign greater value to intra-centre spatial attributes, while younger consumers and those who earn higher-incomes place greater emphasis on temporal attributes. There was evidence that the importance and meaning of attributes is also influenced by the prevailing characteristics of the local retail environment. The local environment determines respondents immediate shopping opportunities. Analysis suggests that these retail opportunities determine patronage behaviour and retail centre preference. Respondents attitude to each test attribute is then influenced by the extent to which it is consistent with the predominant retail form in their local area. The less prevalent the attribute is, the less important its ranking. In other words, the predominant retail form provides shoppers' with a frame of reference against which each attribute is compared and rated. If this is the case then the importance of proximity may have been understated in the analysis. Further support for this notion lies in the relatively high percentage of SCP (44%) that visit a shopping strip at least once per week despite it representing their less preferred option. Such patronage behaviour may be explained by the proximity of shopping strips. This finding also casts doubt over the rigid application of the attitude-behaviour relationship for multi-purpose shopping. This is because attitudes not only influence behaviour they also appear to be shaped by shoppers' behavioural response to their retail environment.

Of all the variables used to test for the consistency of salience, retail centre preference showed the greatest propensity for variation in mean scores. Of the thirty-eight statistically significant differences, eleven originated from retail centre preference. In all eleven cases, the difference was due to SCP assigning significantly more importance to an attribute then SSP. This has important ramifications for the comparison of the two retail forms. Supply-side differences in the provision of specific attributes by the two retail forms may not be as critical to SSP. This is because they assign them relatively lesser importance than SCP.

However, while there were often differences in the absolute mean scores given to attributes by SSP and SCP, the overall ranking of attributes by importance was generally more consistent. This offers the alternative interpretation that rather than attributing lesser importance to specific attributes, SSP are less discerning shoppers in general. In summary, thirteen of the sixteen convenience attributes serve as salient influences over retail centre preference, with their relative importance moderated by demographic and behavioural variables (figure 6.2).

Discriminant analysis indicated that the differing levels of importance assigned to enclosure, one-stop shopping, the number of lanes, store compatibility, concentration, design and shopping services distinguish SSP and SCP. In each case, SCP are characterised by the increased importance assigned to these attributes, providing further support for the notion that SSP are less discerning shoppers.

Figure 6.2 The salient attributes (in bold font) of retail centre convenience



The importance assigned to the vast majority of convenience attributes serves as a potential problem for retail planners because some are contradictory in nature. For example, providing all stores necessary for one-stop shopping can compromise convenience by creating a centre that is excessive in size. Similarly, enclosure, parking proximity, internal pedestrian areas and store visibility conflict because an enclosed centre in providing internal pedestrian areas is forced to compromise parking proximity and store visibility. The first source of conflict can be resolved by emphasising one-stop shopping over size. In the current context of Australian retail centres, the second source is not so easily resolved. Respondents regard both enclosure and parking proximity as salient attributes. And yet the two cannot operate together unless retail centres are designed so that stores face both inwards to enclosed areas and outwards onto parking areas. If such a change in design were to be implemented it would be very costly. For the shopping strip however, such a change may not be justified because while its patrons regard parking proximity as being relatively important, they do not perceive enclosure in the same way, ranking it just 11th in importance. For the shopping centre, there is no such simple solution. Its patrons assign similar levels of importance to both parking proximity (4th) and enclosure (6th).

Logistic regression was used to determine the relationship between demographic characteristics, attitudes towards convenience attributes and retail centre preference. Analysis revealed that the only demographic variable that could reliably

predict retail centre preference was residential location. In contrast respondent attitudes towards the importance of one-stop shopping, enclosure, store visibility, shopping services and the numbers of lanes can all be used as reliable predictors of retail centre preference.

Having established the attributes consumers use to define retail centre convenience and the importance they assign to them, chapter 7 will present a comparison of the two retail forms against the salient attributes.

CHAPTER 7
A SUPPLY-SIDE ANALYSIS OF THE IMPORTANCE OF RETAIL CENTRE CONVENIENCE

7.1 INTRODUCTION

The demand-side analysis revealed that consumers believe retail centre convenience consists of fifteen attributes. A sixteenth attribute – parking type – was added on the basis of a review of literature and pre-test findings. Thirteen of these sixteen attributes were found to serve as salient influences over retail centre preference. However, as part of the research process, multiple indicators should be utilised (de Vaus 1995). To supplement the demand-side analysis, the salience of convenience will also be investigated from a supply-side perspective. Recent surveys of Melbourne's shoppers (KPMG 1999, Honeywill 2001) indicate that consumers preference for shopping strips and shopping centres is evenly balanced. The demand-side analysis confirmed this with 44.3% of respondents preferring shopping strips, 44.7% preferring shopping centres and 11% holding no particular preference for either. If convenience does in fact serve as the most important influence over patronage, then the balance in preference for the two retail forms should also be mirrored by a balance in the provision of convenience. If the opposite were to hold true and one retail form was significantly more convenient than the other, the balanced preference between the two would cast doubt over the influence of convenience. This chapter addresses Research Question 4 and the importance of retail centre convenience in determining patronage behaviour. By seeking to establish whether the balance in retail centre preference coincides with the balance in the provision of convenience, it also addresses Proposition 3 that consumers most preferred retail form will be the one offering the greatest convenience.

The demand-side analysis also determined that not all of the thirteen salient attributes are perceived as being equally important by SSP, SCP and NPP (Table 7.1). Therefore any distinctions between the two retail forms should be considered in light of these attitudinal differences.

Table 7.1 A comparison of importance scores and rankings by retail centre preference

	Sample		SSP		SCP		NPP	
Attribute	Mean	Sig.	M	R	M	R	M	R
Parking number	6.5	.09	6.5	1	6.6	1	6.5	1
Public transport	6.3	.38	6.4	2	6.2	3	6.1	2
Parking proximity	6.0	.45	5.9	3	6.1	4	6.0	3
1 stop shopping	5.7	<.001	5.4	6	6.2	2	5.3	5
Parking Type	5.6	.03	5.4	5	5.8	5	5.5	4
Proximity	5.6	.09	5.6	4	5.7	7	5.2	6
Compatibility	5.3	<.001	5.0	7	5.7	8	5.1	7
Enclosure	5.2	<.001	4.6	11	5.8	6	5.0	10
Trading hours	5.1	.01	4.9	8	5.4	9	5.0	9
Design	5.0	<.001	4.7	9	5.2	11	5.1	8
Concentration	4.9	<.001	4.6	10	5.2	10	4.7	11
Lane Number	4.7	<.001	4.3	12	5.2	12	4.7	12
Traffic Controls	4.2	.16	4.0	13	4.3	13	4.2	13

KEY: M=Mean, R=Ranking.

7.2 PARKING ATTRIBUTES

The amount of parking available ranks as the most important attribute across all segments. It was measured by the proportion of space dedicated to parking within each retail centre. Analysis revealed that on average the seventeen shopping centres dedicate 42% of their space to parking (Table 7.2), compared to 33% for shopping strips (Table 7.3). Several factors should be taken into account when interpreting these figures. While shopping centres do dedicate more space to parking, it is well short of the 80% of total area that some shopping centres in the U.S.A dedicate to parking (Hasty 1983). Moreover, in the context of the total area of a large retail centre, consumers may not be able to perceive the relatively small percentage gap (9%) that separates the two retail forms. Furthermore, this gap is inflated by the fact that in six of the nineteen shopping strips, parking space provided by in-town shopping centres was not included in the parking area available to shopping strip patrons. If the total area dedicated to parking is used as the measure of parking availability then the distinction between the two becomes clearer. When the total area dedicated to off-road parking and parking lots are combined, the shopping strip offers an average 23000 square metres of parking. By comparison, the shopping centre offers almost 50000 square metres.

Table 7.2 The provision of parking attributes in shopping centres

Shopping centre	Park area	Total area	Park %
Box Hill Central (NE)	20000	50000	40.0
Doncaster SC (NE)	80000	165000	48.5
Greensborough (NE)	20000	90000	22.2
North Blackburn (NE)	20000	40000	50.0
Northland (NE)	110000	175000	62.9
Warringal SC (NE)	10000	30000	33.3
Whitehorse Plaza (NE)	10000	40000	25.0
Brandon Park (SE)	20000	55000	36.4
Chadstone (SE)	100000	300000	33.3
Forest Hill (SE)	75000	170000	44.1
The Glen (SE)	30000	80000	37.5
Oakleigh (SE)	7500	17500	42.9
Southland (SE)	40000	190000	21.1
Malvern Central (SW)	7000	27000	25.9
Airport West (NW)	70000	105000	66.7
Highpoint (NW)	180000	330000	54.5
Northcote (NW)	34000	54000	63.0
Average	**49029**	**112853**	**41.6**

KEY: Park area = total area in square metres dedicated to parking, Total area = total area in square metres of the shopping centre (including parking), Park % = percentage of total area dedicated to parking.

The ability to park close to desired stores consistently ranks as the third most important attribute, the two exceptions being higher-income earners (2nd) and SCP (4th). Due to the enclosed nature of the shopping centre and the inward orientation of its stores, all of its parking is located beyond its periphery. In stark contrast, the majority of shopping strip parking is located in the core (44%) and intermediate zones (35%) (Table 7.3). Even in Prahran's shopping strip where the majority of its parking is located on the periphery it coincides with the fact that that this zone serves as the focal point of its retail activity. Even taking into account that 21% of shopping strip parking is located in the peripheral zone, this is still preferable to shopping centre parking, all of which is located beyond the periphery. As such the shopping centre is at a relative disadvantage to the shopping strip in terms of parking proximity. Moreover, the characteristic concentration of its stores into a central mall and an absence of stores with external entrances exacerbate this problem for the shopping centre.

Table 7.3 The provision of parking attributes in shopping strips

Shopping strip	Type	Curb	Lot	Park %	Curb%	Lot%	% C	% I	% P
Ivanhoe (NE)	Parallel	7875	6000	26	56.8	43.2	18.9	47.7	33.3
Bentleigh (SE)	Parallel	9560	33000	47	22.5	77.5	60.9	26.1	13.0
Camberwell (SE)	Parallel	13500	20000	35	40.3	59.7	28.4	58.2	13.4
Carnegie (SE)	Parallel	6750	14000	38	32.5	67.5	78.3	10.8	10.8
Moorabbin (SE)	Parallel	18000	8000	22	69.2	30.8	53.8	23.1	23.1
Oakleigh (SE)	Parallel	12000	5000	21	70.6	29.4	52.9	23.5	23.5
Brighton (SW)	Diagonal	6750	12000	34	36.0	64.0	12.0	76.0	12.0
Brighton North (SW)	Parallel	7875	5000	23	61.2	38.8	38.3	41.4	20.4
Elsternwick (SW)	Parallel	7875	16000	37	33.0	67.0	57.1	31.9	11.0
Hampton (SW)	Parallel	8400	9000	29	48.3	51.7	67.8	16.1	16.1
Malvern (SW)	Parallel	10125	15000	37	40.3	59.7	49.3	25.4	25.4
Prahran (SW)	Parallel	12930	21000	34	38.1	61.9	40.4	15.6	43.9
South Yarra (SW)	Parallel	9000	12000	35	42.9	57.1	21.4	64.3	14.3
Coburg (NW)	Parallel	8550	40000	61	17.6	82.4	47.1	47.1	5.9
Fitzroy (NW)	Parallel	9000	2000	18	81.8	18.2	45.4	27.3	27.3
Footscray (NW)	Parallel	15000	10000	25	60.0	40.0	20.0	20.0	60.0
Moonie Ponds (NW)	Parallel	5040	12000	43	29.6	70.4	27.5	62.7	9.9
Northcote (NW)	Parallel	7590	8000	31	48.7	51.3	67.5	16.2	16.2
Richmond (NW)	Parallel	9225	6000	23	60.6	39.4	42.2	37.6	20.2
AVERAGES		**9739**	**13368**	**33%**	**47%**	**53%**	**44%**	**35%**	**21%**

KEY: Type = type of curb side parking provided, Curb = total area in square metres dedicated to curb side parking, Lot = total area in square metres dedicated to parking lots, Park % = percentage of total area dedicated to parking, Curb% = percentage of total parking dedicated to curb side parking, Lot% = percentage of total parking dedicated to parking lots, %C = percentage of total parking provided in core zone, %I = percentage of total parking provided in intermediate zone, %P = percentage of total parking provided in peripheral zone.

The type of parking available ranks as the fifth most important attribute for both SSP and SCP. One-way ANOVA tests identified that while respondents in general regard it as a salient attribute, SCP (M=5.83) assign greater importance to it than SSP (M=5.45). The demand-side analysis revealed that 78% of respondents prefer parking lots, 16% prefer diagonal curb side parking and 6% prefer parallel curb side parking. Whereas all shopping centre parking is offered from parking lots, the shopping strip dedicates almost half its' parking to the less-preferred curb side parking (47%), leaving just 53% dedicated to parking lots (Table 7.3). Moreover, Brighton is the only shopping strip to offer diagonal parking; consumers preferred form of curb side parking. In all, only twelve of the nineteen shopping strips have the most preferred parking type, parking lots, as their most common parking form. This suggests that the shopping centre holds an important advantage. There is however an alternative interpretation. In light of the relative importance of parking type, the shopping centre is effectively ignoring the preferences of 22% of car-borne shoppers. Although the shopping strip dedicates less space to consumers preferred parking type, it does offer both options. It could be argued that the proportion of parking lot to curb side parking in shopping centres (100% and 0%) is as distant to respondents preferred proportion (78% and 22%) as it is for shopping strips (53% and 47%).

7.3 PUBLIC TRANSPORT

The ability to reach a retail centre quickly and easily by public transport ranks as the second most important attribute. While SSP and SCP assign similar mean scores to its importance, the former (2nd) rank it slightly higher than the latter (3rd). Two criteria were used to measure this attribute; the number of transport modes available to each centre and the type of transport mode. Against the first criterion the shopping strip holds a slight advantage with an average of 2 modes of public transport as compared to 1.5 for the shopping centre (Table 7.4). Analysis of the second criterion however suggests that this advantage may not be as critical as it first appears.

Shoppers most preferred method of public transport is the bus, and in this regard the shopping centre holds sway, with sixteen of its seventeen centres accessible via this medium as compared to thirteen of the nineteen shopping strips. While shopping strips are more accessible by both tram and train they serve as less-preferred methods of public transport. As such, the accessibility of the two retail forms by public transport appears to be evenly balanced.

Table 7.4 A comparison of public transport factors across the two retail forms

Shopping strip	Bus	Train	Tram	Total	Shopping centre	Bus	Train	Tram	Total
Ivanhoe (NE)	1	1		2	Box Hill Central (NE)	1	1		2
Bentleigh (SE)	1	1		2	Doncaster SC (NE)	1			1
Camberwell (SE)	1	1		2	Greensborough (NE)	1	1		2
Carnegie (SE)	1	1		2	North Blackburn (NE)	1			1
Moorabbin (SE)	1	1		2	Northland (NE)	1			1
Oakleigh (SE)	1	1		2	Warringal SC (NE)	1			1
Brighton (SW)	1	1		2	Whitehorse Plaza (NE)	1	1		2
Brighton Nth (SW)	1	1		2	Brandon Park (SE)	1			1
Elsternwick (SW)	1	1		2	Chadstone (SE)	1			1
Hampton (SW)	1	1		2	Forest Hill (SE)	1			1
Malvern (SW)		1	1	2	The Glen (SE)	1	1		2
Prahran (SW)		1	1	2	Oakleigh (SE)	1	1		2
South Yarra (SW)		1	1	2	Southland (SE)	1			1
Coburg (NW)		1	1	2	Malvern Central (SW)		1	1	2
Fitzroy (NW)			1	1	Airport West (NW)	1			1
Footscray (NW)	1	1		2	Highpoint (NW)	1		1	2
Moonie Ponds NW	1	1		2	Northcote (NW)	1	1	1	3
Northcote (NW)	1	1	1	3					
Richmond (NW)		1	1	2					
AVERAGES	**13**	**18**	**7**	**2.0**	**AVERAGES**	**16**	**7**	**3**	**1.5**

7.4 ONE-STOP SHOPPING

One-stop shopping ranks as the fourth most important attribute. One-way ANOVA tests identified that SCP assign greater importance to it than SSP. In fact, whereas SSP rank it as only their sixth most salient attribute, SCP rank it second. Analysis of the extent to which the two retail forms provide for one-stop shopping supports this, with shopping centres possessing a greater propensity to offer all eleven functions. The tendency for shopping centres to be anchored by a department store and/or supermarket meant that fifteen of the seventeen (88%) were able to provide for one-stop shopping (Table 7.5). The two shopping centres that were unable to offer one-stop shopping, were amongst the smallest with North Blackburn containing just 45 businesses and Oakleigh just 53.

Table 7.5 The provision of one-stop shopping in shopping centres

Function	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Supermarket	1	2	2	2	3	1	2	2	2	2	3	2	2	1	3	2	3
Bakery	4	1	2	2	2	1	1	2	5	4	1	1	1	1	2	3	3
Butcher	4	*	2	3	1	2	1	2	1	1	1	1	1	1	1	1	2
Chemist	2	3	1	2	2	1	1	1	4	2	2	1	2	1	1	3	2
Café	3	15	11	2	12	1	2	4	25	10	11	2	11	1	8	15	3
Bank	1	6	*	1	4	1	*	4	7	7	3	*	4	*	4	6	*
Fashion (F)	8	36	28	6	28	5	9	8	66	22	27	6	27	9	19	47	4
Fashion (M)	4	17	17	1	16	1	1	2	31	9	12	1	8	1	10	28	1
Shoes	1	12	9	0	9	1	2	3	13	5	6	1	8	4	4	12	2
Books	1	3	3	0	3	1	2	1	4	2	2	1	3	1	1	3	*
Sporting	2	4	2	0	3	1	*	*	5	1	1	0	2	*	3	3	*

KEY: 1=Box Hill Central (NE), 2=Doncaster SC (NE), 3=Greensborough (NE), 4=North Blackburn (NE), 5=Northland (NE), 6=Warringal SC (NE), 7=Whitehorse Plaza (NE), 8=Brandon Park (SE), 9=Chadstone (SE), 10=Forest Hill (SE), 11=The Glen (SE), 12=Oakleigh (SE), 13=Southland (SE), 14=Malvern Central (SW), 15=Airport West (NW), 16=Highpoint (NW), 17=Northcote (NW).

The flaws associated with leaving the formulation of the tenant-mix to market forces became evident in the analysis of shopping strips. Despite comprising 212 businesses, Oakleigh could offer 7 bakeries, but no supermarket, book or sports store. Richmond, a much-vaunted example of shopping strip rejuvenation, could offer 88 women's clothing stores within its 210 businesses but failed to satisfy five of the other ten criteria. Footscray offers 359 businesses but no supermarket in its shopping strip. In all, only nine of the seventeen shopping strips could provide for all eleven functions (Table 7.6). As is to be expected, larger shopping strips are more likely to provide for one-stop shopping. Moonee Ponds, for example, was the only shopping strip with fewer than 200 businesses to offer all eleven functions. Although retail mass creates a potential source of inconvenience (Huff 1961; Thompson 1967), the demand-side analysis confirmed that the physical size of a retail centre does not serve as a salient influence over patronage behaviour.

Table 7.6 The provision of one-stop shopping in shopping strips

Function	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Supermarket	0	2	1	1	1	0	2	2	1	1	1	3	1	2	1	0	1	0	0
Bakery	5	7	7	5	1	7	4	2	6	7	7	8	*	8	8	7	8	4	0
Butcher	2	4	1	6	1	5	3	2	4	2	4	3	1	7	5	3	*	2	0
Chemist	2	6	3	2	3	2	2	2	4	2	4	5	2	3	2	7	5	1	0
Café	10	9	10	4	3	5	10	9	8	10	7	19	18	4	13	6	11	5	18
Bank	4	4	8	4	2	4	6	4	6	5	7	6	2	5	4	7	5	3	3
Fashion (F)	17	14	36	2	3	12	23	6	15	17	19	10	88	15	1	17	22	5	88
Fashion (M)	6	4	11	6	1	7	8	0	6	7	3	5	49	6	5	4	8	1	36
Shoes	3	5	10	2	3	2	3	1	5	1	3	4	10	3	4	8	5	1	9
Books	1	2	5	1	0	0	2	0	2	1	4	1	1	0	2	*	3	0	0
Sporting	0	1	*	0	0	0	2	0	0	0	1	1	1	1	0	1	3	1	1

KEY: 1=Ivanhoe (NE), 2=Bentleigh (SE), 3=Camberwell (SE), 4=Carnegie (SE), 5=Moorabbin (SE), 6=Oakleigh (SE), 7=Brighton (SW), 8=Brighton Nth (SW), 9=Elsternwick (SW), 10=Hampton (SW), 11=Malvern (SW), 12=Prahran (SW), 13=South Yarra (SW), 14=Coburg (NW), 15=Fitzroy (NW), 16=Footscray (NW), 17=Moonie Ponds (NW), 18=Northcote (NW), 19=Richmond (NW).

It must be noted however that analysis of shopping strips ignored the tenant-mix of in-town shopping centres due to the potential impact of the 'fortress effect' (Lorch & Smith 1993). Northcote and Oakleigh both contain in-town shopping centres. The *fortress effect* serves as a real threat for both these shopping strips, with Northcote Shopping Centre providing all eleven functions, and Oakleigh Shopping Centre offering all but sporting goods. However in shopping strips such as Richmond, Footscray and Ivanhoe, their in-town shopping centres are neighbourhood centres,

and therefore too small to prevent a consumer spill-over into the surrounding strip. In the case of Footscray and Ivanhoe, both neighbourhood shopping centres contain a supermarket meaning that their retail centres as a whole offer one-stop shopping. Thus the gap between shopping strips and shopping centres in the provision of one-stop shopping may not be as significant as first indicated.

7.5 PROXIMITY

Proximity ranks as the sixth most important attribute, and both SSP (M=5.7) and SCP (M=5.6) assign it similar importance scores. There is however a substantial difference in their rankings, with SSP ranking it fourth and SCP seventh. Due to the mixed-use nature of most shopping strips and their sheer size, they serve as large employment centres in their own right, guaranteeing proximity to many consumers place of work. Moreover, all nineteen shopping strips are located in areas of relatively high population density, containing at least 2500 residents per square kilometre (Australian Bureau of Statistics 1998B) thereby offering proximity to large residential populations (Table 7.7). In contrast, only six of the seventeen shopping centres are located within shopping strips, meaning that most are located away from large working populations. Furthermore, eight of the eleven out-of-town shopping centres are located in less densely populated urban areas (less than 2500 residents per square kilometre). As such, the shopping strip enjoys a comparative advantage in terms of proximity.

Table 7.7 Location and population density for shopping strips and shopping centres

Shopping Strip	Density	Shopping Centre	Density	Location
Ivanhoe (NE)	2500-4000	Box Hill Central (NE)	2500-4000	Town Centre
Bentleigh (SE)	2500-4000	Doncaster SC (NE)	2500-4000	Out-of-town
Camberwell (SE)	4000-7500	Greensborough (NE)	1500-2500	Town Centre
Carnegie (SE)	2500-4000	North Blackburn (NE)	1500-2500	Out-of-town
Moorabbin (SE)	2500-4000	Northland (NE)	4000-7500	Out-of-town
Oakleigh (SE)	2500-4000	Warringal SC (NE)	2500-4000	Out-of-town
Brighton (SW)	2500-4000	Whitehorse Plaza (NE)	2500-4000	Town Centre
Brighton North (SW)	2500-4000	Brandon Park (SE)	0-1500	Out-of-town
Elsternwick (SW)	2500-4000	Chadstone (SE)	1500-2500	Out-of-town
Hampton (SW)	2500-4000	Forest Hill (SE)	1500-2500	Out-of-town
Malvern (SW)	4000-7500	The Glen (SE)	1500-2500	Out-of-town
Prahran (SW)	4000-7500	Oakleigh (SE)	2500-4000	Town Centre
South Yarra (SW)	4000-7500	Southland (SE)	1500-2500	Out-of-town
Coburg (NW)	4000-7500	Malvern Central (SW)	4000-7500	Town Centre
Fitzroy (NW)	4000-7500	Airport West (NW)	0-1500	Out-of-town
Footscray (NW)	4000-7500	Highpoint (NW)	1500-2500	Out-of-town
Moonie Ponds (NW)	2500-4000	Northcote (NW)	4000-7500	Town Centre
Northcote (NW)	4000-7500			
Richmond (NW)	4000-7500			

KEY: Density = Population density per square kilometre

7.6 COMPATIBILITY

Compatibility ranks as the seventh most important attribute. A one-way ANOVA test and discriminant analysis both identified its salience as differentiating SCP patrons (M=5.7) from SSP patrons (M=5.0). Analysis of the spatial juxta positioning of compatible stores within the two retail forms supported this, with shopping centres offering a greater degree of store compatibility.

When confronted with the task of patronising a supermarket, baker, butcher and grocer, the shopper must travel an average distance of 91 metres in a shopping centre as compared to 243 metres in a shopping strip. In fact, in seven of the

nineteen shopping centres, the shopper only needs to walk 40 metres or less to visit all four stores (Table 7.8). In comparison, the shortest distance needed to accomplish the same in a shopping strip is 80 metres. This is consistent with the academic proposition that in a non-managed retail environment competition among supermarkets and other smaller food retailers will encourage the latter to maximise their spatial monopoly by dispersing (Lee & Koutsopoulos 1978). Significantly, despite possessing more stores, eight of the nineteen shopping strips were unable to provide the four stores necessary to satisfy the requirements of the test. By comparison, just four of the seventeen shopping centres were unable to offer all four functions.

Table 7.8 The distance between compatible stores

Shopping Strip	Food	Fashion	Shopping centre	Food	Fashion
Ivanhoe (NE)	-	60	Box Hill Central (NE)	150	60
Bentleigh (SE)	160	90	Doncaster SC (NE)	-	30
Camberwell (SE)	700	30	Greensborough (NE)	30	30
Carnegie (SE)	80	-	North Blackburn (NE)	30	30
Moorabbin (SE)	200	-	Northland (NE)	-	30
Oakleigh (SE)	-	100	Warringal SC (NE)	80	30
Brighton (SW)	80	40	Whitehorse Plaza (NE)	30	40
Brighton Nth (SW)	480	200	Brandon Park (SE)	70	40
Elsternwick (SW)	160	100	Chadstone (SE)	40	30
Hampton (SW)	100	60	Forest Hill (SE)	140	30
Malvern (SW)	140	80	The Glen (SE)	40	30
Prahran (SW)	420	460	Oakleigh (SE)	30	30
South Yarra (SW)	-	30	Southland (SE)	200	30
Coburg (NW)	150	170	Malvern Central (SW)	-	30
Fitzroy (NW)	-	-	Airport West (NW)	300	30
Footscray (NW)	-	70	Highpoint (NW)	-	30
Moonie Ponds (NW)	-	40	Northcote (NW)	40	40
Northcote (NW)	-	200			
Richmond (NW)	-	30			
Average (in metres)	**243**	**110**	**Average (in metres)**	**91**	**44**

In terms of visiting four women's fashion stores, the shopper must travel just 44 metres on average in a shopping centre, compared to 110 metres in a shopping strip. In fact there was great consistency across the shopping centres, with sixteen of the seventeen able to offer all four women's fashion stores within a 40-metre distance. In contrast, just five of the nineteen shopping strips could offer the same. The ability of both retail forms to meet the criterion for this test showed significant improvement over the previous test, with all seventeen shopping centres and sixteen of the nineteen shopping strips possessing the necessary number of women's fashion stores.

7.7 ENCLOSURE

While enclosure ranks as the eighth most important attribute, ANOVA and discriminant analysis indicate that there is a significant difference in the salience assigned to this attribute by SSP ($\underline{M}$ = 4.6) and SCP ($\underline{M}$ = 5.8). In fact, SCP rate enclosure as their sixth most important attribute overall compared to eleventh for SSP. Given the lesser importance given to enclosure by SSP patrons, the enclosed sectors of a shopping strip should be expected to possess more indicators of retail blight than its open-air sectors. Analysis of the enclosed and open-air sectors of the shopping strip confirmed this.

Just 4.8% of businesses across the nineteen shopping strips are enclosed within arcades. This statistic in itself provides anecdotal insight into the limited importance of enclosure in shopping strips. In all, there were twenty-two arcades spread across

fourteen of the nineteen shopping strips. Several contrasts separate the enclosed and open areas of shopping strips. The predominant function in the open-air shopping strip is fashion (17%), followed by professional services (16%), leisure products (13%) and consumer services (13%) (Table 7.9). Hence, two of its four largest functions – fashion and leisure products - serve as key attractors.

Table 7.9 Percentage composition of functions in open-air sectors of shopping strips

Function	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Average
Department	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Supermarket	0	1	0	1	1	1	1	1	0	0	0	1	0	1	**1**
Food/Health	7	10	5	7	12	16	9	5	1	7	12	17	9	9	**9**
Food Service	13	18	12	14	10	9	12	9	16	13	15	7	14	10	**12**
Homeware	10	15	12	5	7	5	8	3	6	7	10	7	5	8	**8**
HW/Gar/Auto	1	2	1	2	3	4	1	4	0	1	1	1	1	2	**2**
Fashion	7	10	22	10	12	8	20	4	58	15	12	13	17	30	**17**
Leisure/Gift	12	17	14	13	14	12	12	13	9	14	12	12	9	18	**13**
Prof Ser	18	9	15	22	18	16	21	28	3	17	15	14	23	7	**16**
Cons Ser	19	13	12	18	13	17	13	15	3	15	12	9	13	6	**13**
Comm. Ser	6	4	3	4	5	5	3	7	0	3	2	7	7	3	**4**
Vacant	6	1	3	3	7	6	3	11	2	9	9	12	2	5	**6**
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

KEY: 1=Northcote, 2=Prahran, 3=Camberwell, 4=North Brighton, 5=Bentleigh, 6=Carnegie, 7=Brighton, 8=Moorabbin, 9=South Yarra, 10=Malvern, 11=Footscray, 12=Coburg, 13=Ivanhoe, 14=Moonie Ponds.

In contrast, the two most predominant functions in arcades are professional services (23%) and consumer services (20%) (Table 7.10). The third most common business in an arcade is an empty one, with vacancies making up 17% of all arcade sites. This compares poorly with the open-air shopping strip where just 6% of its sites lie vacant. Food services (13%) heavily dominated by small, independent fast food stores, round out the four most common functions found in arcades. Analysis therefore revealed three key findings. Firstly, 60% of all sites within the enclosed sectors of shopping strips do not in fact offer shopping functions. Instead they either offer service functions or they lie vacant. Secondly, based on the principles of Bid Rent Theory, the predominance of service functions indicates that by attracting lower rental functions, arcades do not serve as popular retail structures. This suggests that arcades are not attractive to consumers. If they were, competition for these limited sites would push rentals beyond a level that service providers could profitably afford (Brown 1994). Thirdly, the predominance of small, independent fast food stores in combination with the large proportion of vacant sites serve as a key indictor of retail blight (Berry 1963). The supply-side analysis supports the demand-side finding that enclosure is not a determinant attribute for SSP. Hence this source of differentiation is unlikely to provide the shopping centre with any significant advantage over the shopping strip.

Table 7.10 Percentage composition of functions in enclosed sectors of shopping strips

Function	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Average
Department	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0.1
Supermarket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Food/Health	0	0	5	0	0	20	33	4	0	17	4	8	0	0	7
Food Service	0	0	35	50	0	20	0	4	0	17	4	11	13	25	13
Homeware	0	0	0	0	0	0	0	0	0	0	2	5	4	0	1
HW/Gar/Auto	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
Fashion	0	0	25	0	0	20	0	9	0	0	10	22	13	0	7
Leisure/Gift	0	20	15	0	20	0	0	4	11	8	0	11	17	13	9
Prof Ser	40	40	0	25	60	0	33	30	33	8	16	8	26	0	23
Cons Ser	20	0	15	25	20	0	33	22	33	17	6	19	17	50	20
Comm. Ser	0	0	0	0	0	20	0	0	0	17	2	3	4	13	4
Vacant	40	40	5	0	0	20	0	22	22	17	54	14	4	0	17
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

KEY: 1=Northcote, 2=Prahran, 3=Camberwell (2), 4=North Brighton, 5=Bentleigh, 6=Carnegie, 7=Brighton, 8=Moorabbin, 9=South Yarra, 10=Malvern (2), 11=Footscray, 12=Coburg (4), 13=Ivanhoe (4), 14=Moonie Ponds. Numbers in parentheses indicate a multiple number of arcades in a shopping strip.

7.8 TRADING HOURS

Extended trading hours serve as the ninth most important convenience attribute. A one-way ANOVA test identified that SCP (M = 5.4) assign greater importance to extended trading hours than SSP (M = 4.9). This must be balanced against the fact that SSP (8th) rank them higher then SCP (9th). Analysis revealed that thirteen of the nineteen shopping strips are unable to satisfy any of the three criteria for extended trading hours (Table 7.11). Subsequently, their trading hours are limited to 9.00 AM to 5.00 PM Monday to Friday, and 9.00 AM to 1.00PM on Saturday. This provides potential problems for the shopping strip patron. Firstly, it forces them to shop during the busiest times of the day, which in combination with traffic congestion and limited parking opportunities has the potential to increase the temporal and effort costs of shopping. Secondly, it alienates what is likely to be one of the largest and most affluent consumer segments, the dual income family. By coinciding the close of retail trade with the close of business, shopping strips are ignoring the tendency for consumers to combine shopping with work trips (Hanson 1980). In effect, many of their stores are closing at the precise time some of the most affluent consumers want to shop. If the consumer chooses not to shop, or is unable to shop, during their lunch breaks or on Saturday morning, the limited trading hours of the shopping strip virtually force the working consumer to patronise shopping centres.

In stark contrast, North Blackburn is the only shopping centre that did not meet all three criteria for extended trading hours. This provides the shopping centre with several potential advantages. Firstly, the days during which its hours are most extensive, Thursday to Saturday, coincide with the days where shopping activity is at its greatest (East et al 1994). Following on from this, its extended hours on Thursday coincide with the day on which the majority of the working population is paid. Most importantly, the longer trading hours on weekends and the fact that it often remains open on public holidays, allows the shopping centre to target recreational shoppers.

Table 7.11 The provision of extended trading hours across the two retail forms

Shopping Strip	A	B	C	Shopping Centre	A	B	C
Ivanhoe (NE)	-	-	-	Box Hill Central (NE)	*	*	*
Bentleigh (SE)	-	-	-	Doncaster SC (NE)	*	*	*
Camberwell (SE)	-	*	-	Greensborough (NE)	*	*	*
Carnegie (SE)	-	-	-	North Blackburn (NE)	*	*	-
Moorabbin (SE)	-	-	-	Northland (NE)	*	*	*
Oakleigh (SE)	-	-	-	Warringal SC (NE)	*	*	*
Brighton (SW)	-	*	-	Whitehorse Plaza (NE)	*	*	*
Brighton Nth (SW)	-	-	-	Brandon Park (SE)	*	*	*
Elsternwick (SW)	-	-	-	Chadstone (SE)	*	*	*
Hampton (SW)	-	-	-	Forest Hill (SE)	*	*	*
Malvern (SW)	-	-	-	The Glen (SE)	*	*	*
Prahran (SW)	-	-	-	Oakleigh (SE)	*	*	*
South Yarra (SW)	-	*	*	Southland (SE)	*	*	*
Coburg (NW)	-	-	-	Malvern Central (SW)	*	*	*
Fitzroy (NW)	-	-	-	Airport West (NW)	*	*	*
Footscray (NW)	-	*	-	Highpoint (NW)	*	*	*
Moonie Ponds (NW)	-	*	-	Northcote (NW)	*	*	*
Northcote (NW)	-	-	-				
Richmond (NW)	-	*	*				

KEY: A = Open Thursday and Friday until 9.00PM, B = Open Saturday until 4.00PM, C = Open Sunday until 4.00 PM.

7.9 DESIGN

The design of a retail centre serves as the tenth most important attribute. While ANOVA and discriminant analysis tests revealed that SCP (M=5.2) assign significantly greater importance to design than SSP (M=4.7), the latter (9th) actually rank it higher then the former (11th). The demand-side analysis revealed that 47.4% of respondents prefer a compact design, 20.6% prefer a linear design and 32% show no preference for either. The fact that approximately one in three respondents are indifferent to the design of a retail centre is indicative of its relative lack of influence over patronage. A supply-side analysis found that while shopping strips and shopping centres are comparable in size (Tables 7.12 and 7.13), the latter minimises extreme walking distances by providing a more compact design. The average length of a shopping centre is 279 metres compared to 701 metres for a shopping strip.

Of the seventeen shopping centres, fifteen possess compact designs. This means that even a shopping centre as large as Southland can provide 200000 square metres of retail space without requiring the shopper to walk more than 300 metres in any one direction. By comparison, Prahran shopping strip in offering just half the amount of retail space has its 205 stores spread over 1150 metres. Bentleigh, a shopping strip containing just 133 retail stores amongst its 234 businesses, stretches over 850 metres. Northcote and Brighton North with just 79 and 81 stores respectively both extend over a distance of approximately 700 metres. Two factors make these statistics all the more disconcerting. Firstly, analysis of retail concentration shows that stores are typically spread over the entire length of the shopping strip (section 7.10). Secondly, if a consumer were to shop both sides of the strip, then the actual distance covered could be as much as double that of the measurements provided.

Table 7.12 The design of shopping strips

Shopping strip	Design	Length (M)	Width (M)	Size (SQ/M)
Ivanhoe (NE)	L	700	75	52500
Bentleigh (SE)	L	850	75	90000
Camberwell (SE)	L	900	100	95000
Carnegie (SE)	L	600	75	55000
Moorabbin (SE)	C	400	300	120000
Oakleigh (SE)	C	400	200	80000
Brighton (SW)	L	600	75	55000
Brighton North (SW)	L	700	75	55000
Elsternwick (SW)	L	700	75	65000
Hampton (SW)	L	750	75	60000
Malvern (SW)	L	900	75	67500
Prahran (SW)	L	1150	75	100000
South Yarra (SW)	L	800	75	60000
Coburg (NW)	L	600	95	80000
Fitzroy (NW)	L	800	75	60000
Footscray (NW)	C	500	200	100000
Moonie Ponds (NW)	L	475	75	40000
Northcote (NW)	L	675	75	50625
Richmond (NW)	L	820	75	65000
AVERAGES		**701**	**102.4**	**71086**

KEY: M=metres, SQ/M=square metres.

Table 7.13 The design of shopping centres

Shopping centre	Design	Length (M)	Width (M)	Size (SQ/M)	Levels
Box Hill Central (NE)	C	300	100	30000	1
Doncaster SC (NE)	C	350	125	85000	2
Greensborough (NE)	C	200	175	70000	3
North Blackburn (NE)	C	100	100	10000	1
Northland (NE)	C	300	130	40000	1
Warringal SC (NE)	C	200	100	20000	1
Whitehorse Plaza (NE)	C	150	100	30000	2
Brandon Park (SE)	C	250	100	30000	2
Chadstone (SE)	C	500	200	200000	2
Forest Hill (SE)	C	200	150	75000	3
The Glen (SE)	L	400	100	55000	2
Oakleigh (SE)	C	150	75	10000	1
Southland (SE)	C	300	300	150000	3
Malvern Central (SW)	C	150	130	20000	2
Airport West (NW)	L	500	70	35000	1
Highpoint (NW)	C	400	150	150000	3
Northcote (NW)	C	300	70	20000	1
Averages		**279**	**128**	**60588**	

KEY: M=metres, SQ/M=square metres.

For shopping centres, the closest examples of a linear design were found in *The Glen* and *Airport West*. In fact Airport West possesses dimensions very similar to that of many shopping strips. However even with approximate dimensions of 500m by 80m, it is still short of the average length of 700 metres for shopping strips. In fact, whereas every one of the linear shopping strips exceeds 450 metres in length, Airport West and Chadstone were the only shopping centres to do the same. Despite representing some of the largest retail environments in Melbourne, only five of the seventeen shopping centres had an external length greater than 300 metres. Rather than adopting the strung out design typical of the shopping strip, shopping centres have accommodated consumer needs for retail mass by expanding upwards. In this way, eleven of the seventeen shopping centres have reduced the spatial extremities of shopping, by providing two or more shopping levels.

7.10 CONCENTRATION

The degree to which retail and non-retail functions are segregated serves as the eleventh most important attribute. This ranking also applies to both SSP and SCP. A comparison of concentration scores for the two retail forms casts some doubt over Haig's (1927) proposition that Bid-Rent Theory is capable of providing an optimal juxta-positioning of firms in a shopping strip. Not one of the shopping strips had more than 62% of its businesses ideally located (Table 7.14). In fact, only just over half (52.5%) the businesses across the nineteen shopping strips are located in their ideal zone. With non-retail firms locating in the core, and stores locating on the periphery, consumers are generally forced to walk greater distances to reach desired stores in shopping strips.

On average, 61% of firms located in the core of the shopping strip, offer core functions. There was significant variation in the scores for individual shopping strips. South Yarra, Richmond, Moonee Ponds, Brighton and Camberwell all yielded high scores on the strength of their fashion categories. Moorabbin and Northcote possess cores with very few core functions, providing support for the notion that when a shopping strip begins to show symptoms of economic blight, its core vacancies are often filled by non-retail functions (Whysall 1995). Prahran recorded a low score for entirely different reasons. Rather than possessing a centrally located core, it possesses two 'core' zones located at opposite ends of its shopping strip. In effect, its core functions are concentrated on its periphery forcing shoppers to travel its entire length (1150 metres).

Table 7.14 Concentration scores for shopping strips and shopping centres

Shopping Strip	C	I	P	AV.	Shopping Centre	C	I	P	AV.
Ivanhoe (NE)	62.5	44.9	54.7	**54.0**	Box Hill Central (NE)	61.3	94.4	46.7	**67.5**
Bentleigh (SE)	52.5	56.1	41.7	**50.1**	Doncaster SC (NE)	79.2	75.0	73.9	**76.0**
Camberwell (SE)	72.3	62.9	48.1	**61.1**	Greensborough (NE)	82.9	81.7	90.6	**85.1**
Carnegie (SE)	64.0	40.0	59.5	**54.5**	North Blackburn (NE)	84.6	78.9	72.7	**78.8**
Moorabbin (SE)	18.8	38.5	42.9	**33.4**	Northland (NE)	90.9	81.4	77.3	**83.2**
Oakleigh (SE)	56.7	56.9	54.5	**56.1**	Warringal SC (NE)	75.0	87.5	50.0	**70.8**
Brighton (SW)	73.2	48.1	62.2	**61.2**	Whitehorse Plaza (NE)	63.6	82.8	87.5	**78.0**
Brighton North (SW)	54.0	51.3	59.7	**55.0**	Brandon Park (SE)	72.4	97.4	80.8	**83.5**
Elsternwick (SW)	72.9	53.3	56.8	**61.0**	Chadstone (SE)	80.6	78.5	81.1	**80.1**
Hampton (SW)	82.5	52.7	34.3	**56.5**	Forest Hill (SE)	80.8	82.7	77.8	**80.4**
Malvern (SW)	48.8	47.7	46.1	**47.5**	The Glen (SE)	84.7	72.7	74.2	**77.2**
Prahran (SW)	39.4	58.9	46.7	**48.3**	Oakleigh (SE)	84.6	88.9	50.0	**74.5**
South Yarra (SW)	86.6	19.5	18.5	**41.5**	Southland (SE)	80.0	77.8	71.0	**76.2**
Coburg (NW)	72.6	72.2	30.1	**58.3**	Malvern Central (SW)	88.9	82.1	-	**85.5**
Fitzroy (NW)	60.7	67.3	27.3	**51.8**	Airport West (NW)	62.7	72.7	72.2	**69.2**
Footscray (NW)	53.1	61.5	43.6	**52.8**	Highpoint (NW)	79.4	69.8	82.1	**77.1**
Moonie Ponds (NW)	75.9	48.3	50.0	**58.1**	Northcote (NW)	68.4	83.3	61.5	**67.6**
Northcote (NW)	30.3	45.3	40.9	**38.8**					
Richmond (NW)	83.1	27.3	63.6	**58.0**					
Averages	**61**	**50**	**46**	**52.5**	**Averages**	**78**	**82**	**72**	**77.1**

KEY: C=core, I=intermediate, P=periphery, AV=average.

Only half (50%) the businesses located in the intermediate zone of shopping strips offer intermediate functions. The low scores for South Yarra, Richmond, Moonee Ponds and Brighton were due to the spill-over of fashion stores into the intermediate zone. In fact the tendency for fashion stores to locate across all three zones applied to all nineteen shopping strips. Similarly, the low percentage of businesses correctly located on the periphery (46%) could usually be attributed to the high incidence of café, fast food and leisure product functions located in this zone. With retail functions just as likely to neighbour non-retail functions, there is evidence that the division of shopping strips into core, intermediate and peripheral zones exists in

theory only. Such a conclusion is not totally unexpected. In pursuit of high traffic locations, retailers position themselves along major arterials. In the absence of high-volume intersections and deliberate planning, such locations will often be randomly scattered along the length of the strip (Boal & Johnson 1968). By targeting the transient car-borne shopper it would seem that many shopping strips have been able to thrive even in the absence of a spatially compact pedestrian environment. Longstreth (1998) noted that as far back as 1928 many Americans had already modified their intra-centre shopping behaviour in response to the car. Many Australian shoppers may now also be similarly conditioned so that when confronted with a lengthy walk, the car is used to minimise the costs of intra-centre travel.

The average concentration score across all three zones of the seventeen shopping centres was 77%, with no centre recording a score less than 67.5% (Table 7.14). In terms of the core, 78% of businesses located within this zone were 'true' core functions. Of the 22% of core businesses that were not core functions, many of these were food sales, optometrists, hairdressers and homeware stores. The juxta positioning of these stores was indicative of the problem in trying to establish one ideal concentration model. For example, confectionery stores (food sales) and homeware are often located in the core due to their compatibility with giftware. Hairdressers and optometrists carrying deep lines of fashion eyewear are often found in the core due to their compatibility with fashion. Hence the location of these non-core functions in a core zone could usually be justified.

The average concentration score for shopping centres in the intermediate and peripheral zones was 82% and 72% respectively. Of the three zones, the periphery typically recorded the lowest concentration score for each shopping centre. With a tenant-mix heavily focused towards shopping activities, many of its 'excess' core and intermediate activities have to be located in its peripheral zone. Moreover, such a spatial strategy is usually justified. For example, the entrance to a shopping centre (which constitutes its periphery) is often dominated by non-retail functions. This may taint visitors' initial impression of the shopping opportunities it provides. However this perception can be overcome via the strategic placement of leisure products within this zone. Due to its small size and design it was not possible to designate a peripheral zone for Malvern Central, and therefore no score was recorded for its periphery.

The concentration scores suggest that market forces provide a less-than-perfect means for the spatial allocation of functions in shopping strips. However, a breakdown of each zone by retail category suggests otherwise. Shopping centres and shopping strips share several spatial similarities in terms of the proportion of units in each zone dedicated to each business category. The core of the shopping centre is clearly dedicated to shopping, with fashion alone (74%) making up almost three quarters of all core businesses (Table 7.15). Its next most common core function is leisure products (11%).

Table 7.15 Composition of shopping centre core by category

Shopping Centre	1	2	3	4	5	6	7	8	9	10	11	V
Box Hill Central (NE)	1	0	1	0	2	0	15	8	2	2	0	0
Doncaster SC (NE)	0	0	2	0	5	0	76	15	2	1	0	0
Greensborough (NE)	0	0	3	0	4	0	57	6	0	0	0	0
North Blackburn (NE)	0	0	0	0	0	0	8	4	0	1	0	0
Northland (NE)	1	0	0	0	3	0	66	5	0	2	0	0
Warringal SC (NE)	0	1	1	0	1	0	9	3	0	1	0	0
Whitehorse Plaza (NE)	0	0	1	0	2	0	13	5	1	0	0	0
Brandon Park (SE)	0	0	0	0	2	0	19	2	1	5	0	0
Chadstone (SE)	2	0	3	7	3	0	110	13	3	3	0	0
Forest Hill (SE)	0	0	2	0	1	0	42	3	2	2	0	0
The Glen (SE)	0	0	2	0	2	0	44	7	1	3	0	0
Oakleigh (SE)	0	0	0	0	0	0	10	1	0	2	0	0
Southland (SE)	0	0	1	0	2	0	32	3	1	1	0	0
Malvern Central (SW)	1	0	0	0	0	0	15	1	0	1	0	0
Airport West (NW)	0	0	2	2	4	0	38	14	2	5	0	0
Highpoint (NW)	2	1	5	4	3	0	79	5	1	2	0	0
Northcote (NW)	0	1	4	2	0	0	9	2	0	1	0	0
% mix of Core	**0.8**	**0.3**	**3**	**2**	**4**	**0**	**74**	**11**	**2**	**4**	**0**	**0**

KEY: 1 = Department Store, 2 = Supermarket, 3 = Food sales, 4 = Food service, 5 = Homeware, 6 = Hardware/Automotive/Gardening, 7 = Fashion, 8 = Leisure products, 9 = Professional services, 10 = Consumer services, 11 = Community services, V = Vacant sites.

Table 7.16 Composition of shopping strip core by category

Shopping Strip	1	2	3	4	5	6	7	8	9	10	11	V
Ivanhoe (NE)	0	0	7	8	4	1	13	7	9	6	1	1
Bentleigh (SE)	0	0	18	9	6	1	15	15	8	4	4	6
Camberwell (SE)	0	0	7	6	12	0	47	14	22	3	1	2
Carnegie (SE)	0	0	21	9	1	2	11	17	11	10	4	3
Moorabbin (SE)	0	1	2	1	2	0	1	1	15	7	2	4
Oakleigh (SE)	0	0	12	6	4	1	16	12	7	7	2	4
Brighton (SW)	0	0	7	9	7	0	21	11	8	6	2	4
Brighton North (SW)	0	0	8	5	3	1	9	9	7	6	2	1
Elsternwick (SW)	0	0	15	12	5	0	23	10	10	7	3	4
Hampton (SW)	0	1	14	7	3	0	15	10	8	3	2	0
Malvern (SW)	0	1	11	9	7	0	13	14	10	15	2	4
Prahran (SW)	0	0	11	17	11	2	7	22	7	14	3	1
South Yarra (SW)	0	0	0	10	3	0	57	6	3	3	0	1
Coburg (NW)	0	0	15	6	7	0	20	12	8	3	2	5
Fitzroy (NW)	0	1	11	5	4	0	6	12	8	6	3	4
Footscray (NW)	0	0	15	13	15	0	24	23	18	17	3	7
Moonie Ponds (NW)	0	0	10	7	9	0	32	18	7	2	2	5
Northcote (NW)	0	0	7	9	9	0	6	6	12	13	4	4
Richmond (NW)	0	0	2	14	3	0	82	6	6	4	1	2
% mix of Core	**0**	**0**	**13**	**10**	**7**	**1**	**27**	**15**	**12**	**9**	**3**	**4**

KEY: 1 = Department Store, 2 = Supermarket, 3 = Food sales, 4 = Food service, 5 = Homeware, 6 = Hardware/Automotive/Gardening, 7 = Fashion, 8 = Leisure products, 9 = Professional services, 10 = Consumer services, 11 = Community services, V = Vacant sites.

Analysis of the shopping strip shows a similar, though less dominant, composition. Just two of its twelve categories, fashion (27%) and leisure (15%) occupy 42% of its core locations (Table 7.16). These are followed closely by another core function, food sales (14%), and then professional services (13%). Together these four categories comprise approximately two thirds of all core businesses in the shopping strip. Given that the three service categories comprise 32.4% of all shopping strip businesses, they should occupy approximately one-third of all core locations in the shopping strip if they are randomly distributed. However, the fact that they represent just 24% of all core businesses suggests that Bid Rent Theory provides a better-

than-expected spatial mechanism for the shopping strip. The impact of services on the core of shopping centres is even less, occupying just 6% of all potential sites.

The intermediate zone of shopping centres is dominated by three categories. Together food service (25%), leisure products (22%) and food sales (19%) account for almost two in three of its' intermediate locations (Table 7.17). The fashion category that dominated its' core accounts for just 9% of its intermediate locations, ranking fifth in size. The intrusion of the three service categories remained minimal occupying just 10.2% of intermediate locations.

Table 7.17 Composition of shopping centre intermediate zone by category

Shopping Centre	1	2	3	4	5	6	7	8	9	10	11	V
Box Hill Central (NE)	0	1	30	13	1	0	1	6	1	1	0	0
Doncaster SC (NE)	2	2	9	20	11	0	5	11	4	4	0	0
Greensborough (NE)	2	2	11	22	8	0	4	15	4	3	0	0
North Blackburn (NE)	0	2	8	2	1	0	0	2	1	2	1	0
Northland (NE)	1	2	8	24	11	0	0	31	3	6	0	0
Warringal SC (NE)	0	0	6	5	0	0	0	4	0	1	0	0
Whitehorse Plaza (NE)	1	2	6	9	3	0	2	3	1	2	0	0
Brandon Park (SE)	0	2	11	16	4	0	0	4	1	1	0	0
Chadstone (SE)	1	2	18	38	18	0	14	50	3	5	0	0
Forest Hill (SE)	3	2	16	15	7	0	6	19	1	6	0	0
The Glen (SE)	2	3	9	19	11	0	7	18	2	5	1	0
Oakleigh (SE)	0	2	8	4	4	0	0	7	0	2	0	0
Southland (SE)	4	2	13	20	8	0	19	13	5	6	0	0
Malvern Central (SW)	0	1	6	7	2	0	2	7	2	1	0	0
Airport West (NW)	2	3	10	16	7	0	5	5	3	4	0	0
Highpoint (NW)	2	1	12	21	19	0	20	27	7	7	0	0
Northcote (NW)	1	2	10	4	4	0	3	5	0	1	0	0
% mix of Intermediate	**2**	**3**	**19**	**25**	**12**	**0**	**9**	**22**	**4**	**6**	**0.2**	**0**

KEY: 1 = Department Store, 2 = Supermarket, 3 = Food sales, 4 = Food service, 5 = Homeware, 6 = Hardware/Automotive/Gardening, 7 = Fashion, 8 = Leisure products, 9 = Professional services, 10 = Consumer services, 11 = Community services, V = Vacant sites.

The intermediate zone of the shopping strip shares some commonalities with the shopping centre. Food service (14%) and leisure products (12.6%) serve as two of its five largest intermediate categories (Table 7.18). However the blurred distinction between zones also became evident. Despite serving as a core function, fashion (16%) remains the predominant category in the intermediate zone. Conversely, predominantly peripheral categories such as consumer (13.9%) and professional services (12.8%) also feature strongly in the intermediate zone. Even with the prominence of consumer and professional services however, the three service categories still only comprise 27.1% of the shopping strip's intermediate locations. Of concern for the shopping strip is the fact that vacant businesses (8.3%) serve as the sixth largest intermediate category and are more common than legitimate intermediate functions such as food sales (7.8%) and homeware (7.5%). Not only does this represent the ultimate in dead shopping space, it also indicates economic blight (Berry 1963).

Table 7.18 Composition of shopping strip intermediate zone by category

Shopping Strip	1	2	3	4	5	6	7	8	9	10	11	V
Ivanhoe (NE)	0	0	6	13	3	0	15	5	20	12	4	1
Bentleigh (SE)	0	2	1	7	5	2	8	8	19	9	5	2
Camberwell (SE)	1	1	7	20	16	1	9	15	8	14	5	3
Carnegie (SE)	0	1	3	2	1	3	2	2	4	7	5	6
Moorabbin (SE)	0	0	2	3	1	4	3	5	15	13	6	10
Oakleigh (SE)	0	0	10	5	7	3	6	8	16	13	4	6
Brighton (SW)	0	2	10	10	8	1	17	8	13	10	2	1
Brighton North (SW)	0	1	1	10	3	0	2	7	5	8	2	2
Elsternwick (SW)	0	1	4	9	5	2	8	14	13	16	3	4
Hampton (SW)	0	0	1	7	4	0	14	12	2	14	1	2
Malvern (SW)	0	0	9	14	5	1	17	17	11	10	2	11
Prahran (SW)	0	1	13	19	16	1	13	11	7	12	2	3
South Yarra (SW)	0	0	0	14	6	0	45	7	3	2	0	2
Coburg (NW)	0	0	16	4	3	2	5	10	2	8	4	18
Fitzroy (NW)	0	0	7	17	3	0	5	10	4	6	3	2
Footscray (NW)	1	0	10	8	8	0	8	9	14	5	2	31
Moonie Ponds (NW)	0	1	4	10	3	3	13	10	3	10	3	2
Northcote (NW)	0	0	4	11	6	1	3	10	11	14	4	8
Richmond (NW)	0	0	1	12	2	0	36	8	8	10	0	1
% mix of Intermediate	**0.1**	**1**	**7.8**	**14**	**7.5**	**2**	**16**	**12.6**	**12.8**	**13.9**	**4**	**8.3**

KEY: 1 = Department Store, 2 = Supermarket, 3 = Food sales, 4 = Food service, 5 = Homeware, 6 = Hardware/Automotive/Gardening, 7 = Fashion, 8 = Leisure products, 9 = Professional services, 10 = Consumer services, 11 = Community services, V = Vacant sites.

The fashion and food categories that dominated the shopping centre's core and intermediate zones are dwarfed by service categories on the periphery. In fact, fashion and the two food categories account for a combined total of just 12% of peripheral functions in the shopping centre (Table 7.19). In contrast, the three service categories that occupied just 6% of core positions, account for 63% of all peripheral businesses. This statistic is made all the more extraordinary by the fact that these categories account for only 18.4% of all businesses in the shopping centre. In short, the compact retail environment of the shopping centre is made even more convenient by the spatial allocation of its retail resources.

An examination of the shopping strip's periphery confirmed that the imperfections that might have been expected from a spatial system based on market forces, did not always materialise. In fact, its spatial composition mirrored that of the shopping centre in many ways. The two service categories, professional services (21%) and consumer services (17%) were its most common peripheral functions (table 7.20). Fashion, leisure products and food sales, which had occupied more than half of its core locations (55%), account for just 25% of businesses on the periphery. In fact, despite representing 63.6% of the shopping strip's tenant-mix, retail functions account for just 41% of its peripheral locations.

Table 7.19 Composition of shopping centre periphery by category

Shopping Centre	1	2	3	4	5	6	7	8	9	10	11	V
Box Hill Central (NE)	0	0	0	0	0	0	0	8	4	2	1	0
Doncaster SC (NE)	0	0	1	5	1	1	2	7	14	12	3	0
Greensborough (NE)	0	0	0	3	1	1	0	4	8	13	2	0
North Blackburn (NE)	0	0	1	1	0	0	1	1	3	4	0	0
Northland (NE)	0	1	2	0	5	2	0	2	16	14	2	0
Warringal SC (NE)	0	0	0	0	1	1	0	2	2	0	2	0
Whitehorse Plaza (NE)	0	0	0	0	0	1	0	1	10	3	1	0
Brandon Park (SE)	1	0	1	0	6	0	0	7	6	4	1	0
Chadstone (SE)	0	0	0	4	3	1	0	6	18	15	6	0
Forest Hill (SE)	0	0	1	6	4	2	0	8	15	16	2	0
The Glen (SE)	0	0	0	4	2	0	3	5	8	8	1	0
Oakleigh (SE)	0	0	2	1	1	0	0	2	1	2	1	2
Southland (SE)	0	0	1	1	3	1	3	2	13	5	2	0
Malvern Central (SW)	0	0	0	0	0	0	0	0	0	0	0	0
Airport West (NW)	0	0	0	0	1	2	0	2	6	6	1	0
Highpoint (NW)	0	0	2	9	2	1	0	8	19	23	3	0
Northcote (NW)	0	0	0	2	1	0	0	3	2	3	2	0
% mix of Periphery	**0.2**	**0.2**	**2**	**8**	**6**	**3**	**2**	**14**	**30**	**27**	**6**	**0.4**

KEY: 1 = Department Store, 2 = Supermarket, 3 = Food sales, 4 = Food service, 5 = Homeware, 6 = Hardware/Automotive/Gardening, 7 = Fashion, 8 = Leisure products, 9 = Professional services, 10 = Consumer services, 11 = Community services, V = Vacant sites.

Table 7.20 Composition of shopping strip periphery by category

Shopping Strip	1	2	3	4	5	6	7	8	9	10	11	V
Ivanhoe (NE)	0	0	2	6	3	1	4	7	16	7	7	2
Bentleigh (SE)	0	0	9	7	4	3	4	9	17	17	2	8
Camberwell (SE)	0	0	3	18	8	1	16	17	15	23	3	6
Carnegie (SE)	0	0	4	5	7	1	1	1	12	11	0	2
Moorabbin (SE)	0	0	4	9	1	2	3	13	16	6	2	6
Oakleigh (SE)	0	0	5	6	4	2	1	2	23	9	3	8
Brighton (SW)	0	0	1	5	0	1	2	4	20	9	3	1
Brighton North (SW)	0	1	2	9	1	2	4	3	23	15	2	2
Elsternwick (SW)	0	0	0	9	4	1	0	3	12	5	3	2
Hampton (SW)	0	0	3	14	6	7	4	15	4	13	1	6
Malvern (SW)	0	0	2	16	8	1	13	9	28	19	6	12
Prahran (SW)	0	2	3	16	15	3	7	15	12	12	7	2
South Yarra (SW)	0	1	3	12	5	0	27	7	4	5	1	3
Coburg (NW)	0	2	6	8	7	1	9	6	21	14	9	6
Fitzroy (NW)	0	0	3	19	11	0	6	12	8	16	2	2
Footscray (NW)	0	0	13	27	9	4	9	6	22	18	2	18
Moonie Ponds (NW)	0	0	0	0	0	0	0	0	1	1	0	0
Northcote (NW)	0	0	0	1	1	0	2	3	8	5	2	0
Richmond (NW)	0	0	0	0	0	0	1	0	4	6	0	1
% mix of Periphery	**0**	**0.5**	**5**	**15**	**8**	**2**	**9**	**11**	**21**	**17**	**4**	**7**

KEY: 1 = Department Store, 2 = Supermarket, 3 = Food sales, 4 = Food service, 5 = Homeware, 6 = Hardware/Automotive/Gardening, 7 = Fashion, 8 = Leisure products, 9 = Professional services, 10 = Consumer services, 11 = Community services, V = Vacant sites.

Across both measures of concentration, the shopping centre was found to offer the shopper greater spatial convenience. In doing so, it also facilitates other convenience-oriented principles such as multi-purpose shopping and store compatibility. This fact should be less-than-surprising. Managers of shopping centres not only decide who their tenants will be, but also where they will be located. This results in an overall layout that benefits retailers and consumers alike. In contrast, market forces typically determine the spatial juxta positioning of the shopping strip. While market mechanisms such as Bid Rent Theory provide a less-than-perfect means for segregating retail and non-retail functions, they still provided

a better-than-expected spatial juxta-positioning of businesses in the shopping strip. While individual stores were often located in less-than-ideal locations, the proportion of retail functions to non-retail functions does increase as one moves inwards from the periphery to the core of the shopping strip. While such forces may not be as efficient as the spatial system of the shopping centre, it still offers consumers a more effective means of spatial convenience than could be expected by mere chance.

It should also be noted that the relative importance of parking proximity lends itself to an alternative interpretation. Shoppers in general rank concentration well below the ability to park close to desired stores. And yet such is the layout of the shopping centre, that the zone containing the highest concentration of retail functions is also the zone located at the greatest distance from its parking areas. Of the 2391 businesses located across the seventeen shopping centres, only eleven have entrances opening directly onto the parking lot. All eleven are non-retail firms such as dry cleaners, cinemas, bingo halls and gaming venues.

7.11 NUMBER OF TRAFFIC LANES

The ability to reach a retail centre on roads with multiple lanes ranked as the twelfth most important convenience attribute. One-way ANOVA tests and discriminant analysis identified that SCP patrons (M=5.2) assign greater importance to it than SSP (M=4.3). Hence, while it was less salient to respondents in general, it is still of significant importance to SCP. Again, this statistic must be considered in light of the fact that SSP and SCP both rank it twelfth in importance.

Analysis of the two retail forms revealed that no shopping strip is accessible by anything other than single lane roads (Table 7.21). This statistic is made all the more negative by the fact that the shopping strips are reached by primary and secondary roads. The congestion caused by funnelling heavy traffic into a single lane causes further potential inconvenience. Of the seventeen shopping centres, ten can be accessed via roads with multiple lanes. Of the seven that are positioned along single lane roads, four of these are located within shopping strips.

7.12 TRAFFIC CONTROLS

The methods used to control traffic ranked as the thirteenth and least important of the salient convenience attributes. This attitude was consistent across both the mean scores and rankings of SSP and SCP. Each shopping strip contains on average four traffic lights, and only Brighton does not contain a single traffic light within its delimited area (Table 7.21). By comparison, there were no traffic lights in any of the seventeen shopping centres. Instead roundabouts, pedestrian crossings and speed humps were used to control traffic.

Table 7.21 A comparison of salient access attributes across retail forms

Shopping strip	Lanes	Lights	Shopping centre	Lanes	Lights
Ivanhoe (NE)	1	3	Box Hill Central (NE)	3	0
Bentleigh (SE)	1	3	Doncaster SC (NE)	2	0
Camberwell (SE)	1	6	Greensborough (NE)	1	0
Carnegie (SE)	1	4	North Blackburn (NE)	1	0
Moorabbin (SE)	1	6	Northland (NE)	2	0
Oakleigh (SE)	1	4	Warringal SC (NE)	1	0
Brighton (SW)	1	0	Whitehorse Plaza (NE)	3	0
Brighton Nth (SW)	1	2	Brandon Park (SE)	2	0
Elsternwick (SW)	1	3	Chadstone (SE)	2	0
Hampton (SW)	1	3	Forest Hill (SE)	2	0
Malvern (SW)	1	5	The Glen (SE)	2	0
Prahran (SW)	1	7	Oakleigh (SE)	1	0
South Yarra (SW)	1	5	Southland (SE)	3	0
Coburg (NW)	1	4	Malvern Central (SW)	1	0
Fitzroy (NW)	1	4	Airport West (NW)	2	0
Footscray (NW)	1	10	Highpoint (NW)	1	0
Moonie Ponds (NW)	1	4	Northcote (NW)	1	0
Northcote (NW)	1	4			
Richmond (NW)	1	3			
Averages	**1**	**4.2**	**Averages**	**1.8**	**0**

7.13 SUMMARY

This chapter addressed Research Question 4 and the importance of retail centre convenience in determining patronage behaviour. By seeking to establish whether consumers most preferred retail form was also the one offering the greatest convenience, it also addressed Proposition 3. A supply-side analysis of the two retail forms using the thirteen salient attributes of retail centre convenience revealed that in overall terms, the shopping centre is more convenient then the shopping strip. For all but three of the thirteen attributes, the shopping centre enjoys some level of advantage over the shopping strip. The only convenience attributes for which the shopping centre does not hold sway are public transport, parking proximity and retail centre proximity. This verifies the perception held by 52% of respondents (section 6.2.3) that shopping centres are the more convenient of the two retail forms. This finding seemingly challenges the importance of convenience, because in spite of the self-stated attitude that it serves as their most important retail influence, SSP still prefer the less convenient of the two retail forms.

The demand-side analysis however places this finding into perspective. The shopping strip performs well in the provision of convenience attributes that are assigned the greatest importance by SSP. On a seven-point importance scale with seven representing extreme importance, SSP only assigned mean scores of six or higher to two attributes – the availability of parking and public transport. For both these attributes the shopping strip is fairly evenly matched with the shopping centre. Only four other attributes are assigned mean scores above five by SSP, and against these the shopping strip again compares well. While the shopping centre holds a competitive advantage in terms of one-stop shopping and parking type, the advantage is relatively slight. In terms of parking proximity and the proximity of the retail centre itself, the shopping strip actually enjoys a distinct advantage. Moreover, the tendency for respondents to utilise their immediate retail environment as a frame of reference for assessing attributes, suggests that proximity may actually be more influential then respondents indicated.

The attributes in which the shopping centre holds a distinctive advantage were all assigned mean scores of five or less by SSP. While the shopping centre enjoys a competitive advantage in terms of store compatibility, enclosure, trading hours,

design, concentration, the number of lanes and the type of traffic controls, none of these rate amongst SSP six most influential attributes. This is an important consideration because the demand-side analysis indicated that SSP are less discerning shoppers. Because the attributes that provide the shopping centre with a distinct advantage do not figure in their top few determinant attributes, it is possible that they do not exert any significant influence over SSP.

The connection between retail centre preference and retail centre convenience is much clearer for SCP. In contrast to SSP, SCP place significant emphasis on most convenience attributes. SCP assigned mean scores of six or higher to four attributes – the availability of parking, one-stop shopping, public transport and parking proximity. For the first three of these attributes the shopping centre is equal to, or superior then, the shopping strip. The fact that it is at a competitive disadvantage though in terms of parking proximity calls into question the importance of this convenience attribute. However when analysis takes into account the respective importance and influence of other attributes, an alternative interpretation can be proffered. Parking proximity is not only a function of its spatial provision, but also its availability. The ability to park immediately outside desired stores is of little benefit if these parking areas are limited and often already occupied. The next determinant of parking proximity then becomes parking availability, against which the shopping centre rates well.

In stark contrast to SSP, SCP assigned mean scores above five to eight of the nine remaining attributes. For all but one of these attributes, the shopping centre enjoys a clear advantage over the shopping strip. The one exception is proximity. Despite serving as the seventh most important attribute to SCP, the shopping strip serves as a closer shopping option for most respondents. Again, this calls into question the influence of a convenience attribute. There are however several possible explanations for this inconsistency. Firstly, given that the sampling frame for both respondents and retail centres was limited to a fifteen-kilometre radius, this distance may be small enough for most retail centres to be considered 'close'. Secondly, because shopping trips are often measured in terms of time rather than distance (Brunner & Mason 1968), shopping centres may be considered closer due to the temporal convenience provided by their access attributes. Moreover, consumers often psychologically distort physical distance in an urban context, mistakenly perceiving out-of-town retail centres as being closer than in-town centres (Potter 1979A). Hence, although the shopping centre may not be the closest, it is perceived as such and patronised accordingly (Hubbard 1978).

While NPP only constitute 11% of respondents, the opportunity to convert them to regular patrons should serve as a key objective for the two retail forms, particularly given the balanced share of preference. Retail centre convenience will serve as an important strategy for achieving this goal. As with SSP and SCP, convenience rates as the most important strategy for NPP. What sets NPP apart from SSP and SCP is their perceptions of which retail form is most convenient. Whereas just 9% of SSP and 4% of SCP are undecided on this issue, 52% of NPP have no opinion as to which is more convenient. This suggests that NPP could be converted to regular patrons of one of the two retail forms by establishing a competitive advantage in those convenience attributes they regard as salient and then promoting these advantages. NPP are similar to SSP in that while convenience is important to them, the list of convenience attributes likely to determine their patronage behaviour is limited relative to SCP. An obvious strategy would be to improve the provision of parking attributes as three of their four salient attributes relate to parking.

CHAPTER 8
CONCLUSIONS, IMPLICATIONS AND FUTURE RESEARCH

8.1 INTRODUCTION

The primary purpose of this study was to determine the importance of retail centre convenience. However, in the absence of any universal definition it was first necessary to define it. A definition was developed on the proposition that retail centre convenience consists of dimensions and attributes. Its dimensions relate to the generic meaning of convenience and serve as the criteria for the inclusion of retail centre attributes. These attributes are specific to the meaning of retail centre convenience. The importance of these attributes was then determined by measuring their influence over consumers' retail centre preference in the context of a multi-purpose shopping trip. Five research questions and three research propositions were developed in order to determine the meaning and importance of retail centre convenience. The results and discussion of these were presented in the two preceding chapters. Chapter 6 examined Research Questions 1 through 5 and Propositions 1 and 2. These investigated consumers' beliefs about the meaning of retail centre convenience and their attitudes towards its importance. Chapter 7 addressed Proposition 3, which proffered that the most preferred retail form will be the one offering the greatest convenience.

This chapter identifies and summarises the main conclusions for each of the research questions and propositions. It also discusses the theoretical and methodological contributions made by the thesis to the academic discipline. This is followed by the managerial implications of the findings of the thesis. Finally, the limitations of the study will be addressed and recommendations made for future research.

8.2 SUMMARY OF RESEARCH QUESTIONS AND PROPOSITIONS

8.2.1 Research Question 1: How do consumers define retail centre convenience?

Based on a review of the literature it was proffered that retail centre convenience consists of dimensions stemming from the generic meaning of convenience, and attributes that are specific to retail centre convenience. Two research propositions were developed to test this notion. In order to answer this research question, these propositions must first be addressed.

8.2.2 Proposition 1: Retail centre convenience comprises dimensions that represent the non-financial costs of patronising a retail centre.

The dimensions of retail centre convenience were examined in chapter 6 of this thesis using one-sample T-tests. Analysis supported all six hypotheses (refer section 3.7) relating to this proposition. Retail centre convenience consists of three dimensions relating to time, space and effort, all of which serve as the non-financial costs of patronising a retail centre. The significance of this finding is that this definition is not only consistent with its generic meaning, it is also consistent with the way in which consumers define the dimensions of convenience across a variety of consumption situations (Gehrt & Yale 1993). Tests using coefficient alpha and factor, discriminant and convergent analysis indicated that the scales used to measure these dimensions were both reliable and valid.

8.2.3 Proposition 2: Retail centre convenience comprises attributes that determine the non-financial costs of patronising a retail centre.

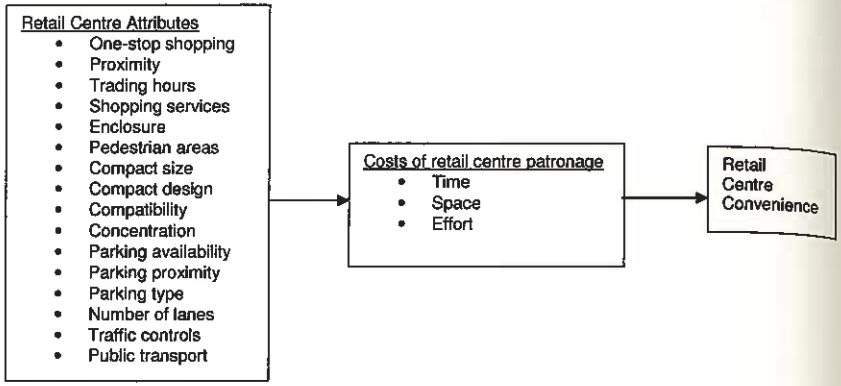
Two methods were used to examine Proposition 2. Based on a review of literature, eighteen attributes were identified as potential attributes of retail centre convenience. Their influence over one or more of the non-financial costs of patronising a centre served as the main criteria for their inclusion. One-sample T-tests were used to determine whether consumers use these same attributes to define retail centre convenience. Analysis supported fifteen of the seventeen hypotheses relating to this proposition (the eighteenth attribute - parking type - was added as a sixteenth attribute on the basis of a review of literature and pre-test findings).

The two exceptions were speed limits and store visibility. The rejection of these two test attributes may be attributed to the notion that with conveniences there are inconveniences as well (Gehrt et al 1996). While higher speed limits offer temporal convenience, they compromise the principle of accessibility which states that the more easily a retail centre can be approached and entered the more likely is patronage (Lewison 1997). By compromising safe access it is possible that higher speed limits also compromise convenience. There are two possible explanations for the lack of convenience assigned to store visibility. Firstly, its convenience lies in its ability to simplify a car-borne search for desired stores in retail centres that the shopper is unfamiliar with. However the frequency and nature of multi-purpose shopping means that most trips will be to retail centres that are within close proximity and that are therefore familiar. This negates any convenience associated with store visibility. Secondly, for shopping centre patrons, store visibility often comes at the expense of enclosure, an attribute to which they assign a high degree of convenience.

As a second measure of Proposition 2, correlation analysis was used to determine the relationship between the attributes and dimensions of retail centre convenience. Of the fifteen convenience attributes tested, thirteen were related to at least one of the three dimensions. This finding provides general support for Proposition 2 that retail centre convenience comprises attributes that influence the non-financial costs of patronising a retail centre. Significantly, higher speed limits, which consumers do not regard as a convenience attribute was not associated with any of the dimensions. The other non-convenience attribute, store visibility, actually shares a negative relationship with the temporal dimension. The two convenience attributes that did not correlate with either of the temporal, spatial or effort dimensions were pedestrian areas and traffic controls. These attributes serve to reduce the intrusion of cars and slow their speed. This suggests that their perceived convenience may stem from another source such as safety.

With the exception of speed limits and store visibility, the findings in relation to propositions 1 and 2 provide general support for the definition of retail centre convenience proffered in chapter 3 (figure 8.1).

Figure 8.1 Definition of Retail Centre Convenience



8.2.4 Research Question 2: Do the dimensions of retail centre convenience differ across demographic and behavioural variables?

The consistency in beliefs about the dimensions of retail centre convenience was examined in chapter 6. Independent-samples T-tests and ANOVA tests were used to determine whether beliefs about the dimensions of convenience varied according to gender, age, income, location and retail centre preference. In thirty-six separate tests, fourteen statistically significant differences were identified. However all were so small in magnitude as to have no impact on the overall belief that retail centre convenience consists of temporal, spatial and effort dimensions.

8.2.5 Research Question 3: Do the attributes of retail centre convenience differ across demographic and behavioural variables?

Independent-samples T-tests and ANOVA tests were used to determine whether beliefs about what attributes constitute retail centre convenience are consistent across gender, age, income, location and retail centre preference. Significant yet small variations in beliefs were identified in twenty-three of these eighty tests. Rather then identify differences in beliefs about whether an attribute was convenient or not, the majority merely indicated differing beliefs towards the degree of convenience offered by a convenience attribute. There were however five exceptions. Younger consumers and those from the northwest zone where shopping strips are more prevalent do not share the overall belief that the size and design of a retail centre contribute to its convenience. Similarly, males, those that prefer shopping strips and those aged 51-64 do not believe that shopping services are a convenience attribute. Conversely, while respondents do not regard speed limits as convenience attributes in general, SCP do perceive convenience in being able to reach a retail centre on roads with higher speed limits. In a similar way, SSP believe that store visibility does enhance the convenience of a retail centre.

Respondents retail centre preference exerted the greatest influence on beliefs, accounting for eight of the twenty-three significant variations. In all eight cases, respondents beliefs appeared to be shaped by a distinctive characteristic of their preferred retail form. For example, the belief amongst SSP that store visibility enhances convenience may be linked to the fact that stores in shopping strips are generally more visible to passing motorists. A similar pattern emerged for location, which accounted for five of the twenty-three significant differences. In each case beliefs' appeared to be linked to the peculiarities of respondents local retail

environment. For example, the belief amongst respondents from the northwest that the size and design of a retail centre does not influence its convenience is reflective of the larger, elongated shopping strips that characterise that zone.

8.2.6 Research Question 4: How important is retail centre convenience?

Several methods were used to determine the importance of retail centre convenience. The first of these was chi-square analysis, which in also serving as a measure of concurrent validity, was discussed in chapter 4. It was used to determine whether there was any association between respondents perception of the most convenient retail form and their most preferred and frequented retail form. Analysis indicated that a moderately strong relationship exists between convenience and patronage behaviour. Respondents typically prefer and patronise most frequently the retail form they perceive as being most convenient.

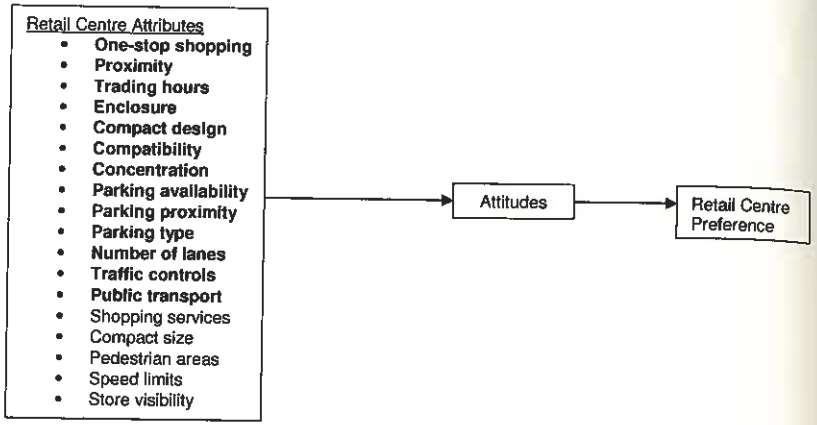
The second method used to determine its importance was respondents attitudes towards convenience as an overall strategy relative to other retail strategies often preferred in the design and rejuvenation of retail centres. Analysis revealed that of the five retail strategies, the convenience of a retail centre is the most influential in determining preference. The much-vaunted social and entertainment strategies (Bloch et al 1994; Roy 1994) do not serve as salient influences in the context of multi-purpose shopping.

The influence of individual convenience attributes over retail centre preference was also used to measure the importance of convenience. Of the sixteen convenience attributes of a retail centre, thirteen serve as salient influences. Retail centre size, shopping services and the provision of pedestrian areas are the only convenience attributes not regarded as salient. Significantly, store visibility and speed limits, the two test attributes not regarded as convenience attributes, have no significant influence over preference. Furthermore, parking availability, public transport, parking proximity, one-stop shopping, parking type, proximity, compatibility, enclosure and trading hours, even as individual components of retail centre convenience, were all assigned greater importance then the four alternative retail strategies. As such, not only does convenience as an overall strategy serve as a preferred alternative to the other rejuvenation strategies, so too does many of its individual components.

The fourth method used correlation analysis to test for a relationship between the degree of convenience associated with an attribute and its importance. For all sixteen attributes tested, large statistically significant correlations were identified. This provided yet further support for the importance of convenience: the more convenient the attribute, the greater its influence over retail centre preference.

In combination, these findings provide general support for the patronage model utilised in this study (figure 8.2). There are sixteen attributes that influence the temporal, spatial and/or effort costs of patronising a retail centre. Consumers form attitudes towards these attributes, thirteen of which serve as salient influences over their retail centre preference. Further support for the model lies in the tendency for consumers to prefer and frequent the retail form they perceive as being most convenient.

Figure 8.2 The relationship between convenience attributes and patronage behaviour



8.2.7 Research Question 5: Does the importance of retail centre convenience differ according to demographic and behavioural variables?

Independent-samples T-tests and ANOVA tests were used to determine whether attitudes towards the importance of the convenience attributes of a retail centre are consistent across gender, age, income, location and retail centre preference. Almost half of these eighty-five tests identified a significant variation in attitudes. The vast majority of these were too small to alter the overall attitude as to whether an attribute was important or not. The one exception was the importance of retail centre size. While respondents as a whole do not regard its influence over patronage as salient, lower-income respondents, those aged 65-91 and those from the northeast zone do regard it as important.

Several patterns emerged across the five segmentation variables. Age accounted for nine of the thirty-eight statistically significant differences. Older consumers assign greater value to spatial attributes that minimise the physical effort involved in intra-centre travel. Younger consumers place greater emphasis on attributes that minimise temporal costs such as one-stop shopping, store visibility and trading hours. Analysis by income, revealed a similar pattern with lower-income respondents placing greater emphasis on spatial attributes such as store compatibility and the size and design of a retail centre. Higher-income earners assign greater importance to temporal attributes such as one-stop shopping and trading hours. Respondents attitude towards the importance of an attribute often mirrored the distinctive retail characteristics of the most common retail form in their local environment. The less prevalent an attribute is in respondents immediate retail environment, the lower the mean score typically assigned to its importance. For example, the significantly higher importance assigned to a compact retail centre by respondents from the northeast is indicative of the smaller shopping centres that dominate that zone. While the importance of attributes was relatively consistent across gender, one significant trend did emerge. On each of the five occasions where gender did account for a significant variation in importance, it was females that assigned greater importance to the attribute. The added importance assigned by females to attributes that minimise the time and effort exerted while shopping challenges the notion that men are more discerning shoppers (Alexander 1988; Reid & Brown 1996; Underhill 1999).

Again, as with their beliefs towards the meaning of convenience, most variations in attitude were due to differences in retail centre preference. Eleven significant differences were identified across the eighteen attributes. In each case, the differences were due to SCP assigning significantly more importance to an attribute then SSP. As the supply-side analysis would show, the shopping centre holds a comparative advantage for all eleven attributes. This provides further support for the relationship between the importance of convenience attributes and their influence over patronage behaviour in the form of retail centre preference. This is because respondents that assign the greatest importance to these attributes have developed a retail centre preference for the retail form that best meets their needs.

However, while there were often differences in the absolute mean scores assigned to the attributes by SSP and SCP, their overall ranking was generally more consistent. This offers the alternative interpretation that rather than attributing lesser importance to specific attributes, SSP are less discerning shoppers in general.

8.2.8 Proposition 3: Consumers' most preferred retail form will be the one offering the greatest convenience.

This proposition was examined in chapter 7 by measuring how the two retail forms rated against the salient convenience attributes and comparing this with the most preferred retail form overall. Data collected via the questionnaire revealed that retail centre preference is evenly divided between shopping strips (44.3% of respondents) and shopping centres (44.7%). This suggests that if this proposition were to be supported, then the comparison of shopping strips and shopping centres should reveal an even balance in the provision of convenience attributes. Analysis revealed however that this was not the case, with the shopping centre holding some level of advantage for ten of the thirteen salient attributes. This creates doubts over Research Proposition 3 because in spite of the demand-side finding that attitude serves as their most important retail influence, SSP still prefer the less convenient of the two retail forms.

When the findings from the demand-side and supply-side analyses are combined however it provides a different perspective. The shopping strip is comparable to the shopping centre against the two attributes to which SSP assign the greatest importance, the availability of parking and public transport. There are only four other attributes that are likely to serve as salient influences for SSP, and against these the shopping strip again compares well. While the shopping centre holds a competitive advantage in terms of one-stop shopping and parking type, the advantage is relatively slight. In terms of parking proximity and the proximity of the retail centre itself, the shopping strip actually enjoys a distinct advantage. Furthermore, SSP differ in their perceptions towards the degree of convenience associated with many of the attributes that distinguish the two retail forms. While the shopping centre offers enclosure, one-stop shopping, more access lanes, greater store compatibility, and segregates retail and non-retail functions, SSP not only assign less importance to these attributes, but less convenience as well. As such, SSP do patronise their most convenient retail form, based on their own set of beliefs about the degree of convenience associated with the attributes of a retail centre and the importance they assign to them.

There is greater equilibrium between the attitudes of SCP towards the attributes of retail centre convenience, and the actual provision of these attributes. For all but two of the thirteen salient attributes, the shopping centre offers greater convenience. In summary, while patronage behaviour is influenced by convenience attributes, it is

consumers' beliefs and attitudes towards these attributes, rather then their actual provision that ultimately determines retail centre preference.

8.3 CONTRIBUTION TO THE ACADEMIC DISCIPLINE

8.3.1 Theoretical Contribution

A major criticism of research on convenience stems from the failure of academics to define it prior to measuring it (Brown 1989). Research into retail centre convenience has proved no exception. In fact, no previous study has specifically set out to determine the importance of retail centre convenience. Instead, attitudes have been measured towards a variety of retail centre attributes, which were then combined into factors. Based on the researcher's own interpretation, the term convenience was then often assigned to one of these factors. As a result, convenience came to be defined in terms of a list of attributes that often varied between studies. Defining convenience by its attributes only is no different to defining a car as merely a steering wheel, seats, tyres and floor mats rather then an engine driven vehicle used for transport along roadways.

This study sought to address this gap in the literature by developing an alternative definition based on consumer beliefs about the meaning of retail centre convenience. This definition was drawn from the generic meaning of convenience as a phenomenon that occurs when the non-financial costs of undertaking an activity are minimised. Based on a review of literature it was proposed that these non-financial costs relate to the time, space and effort required to shop at a retail centre. These costs were then used as the criteria for identifying the convenience attributes of a retail centre.

A key contribution of this study was the general empirical support it provided for this two-pronged definition. Consumers believe that retail centre convenience consists of temporal, spatial and effort dimensions. The less time, effort and distance required to shop at a retail centre, the more convenient it is. Of the seventeen attributes tested, consumers believe that there are fifteen that influence the convenience of a retail centre. A sixteenth attribute was later added on the basis of a review of literature and pre-test results. This finding provides a stark contrast to previous studies, all of which used four attributes or less to 'define' retail centre convenience.

Defining convenience according to its dimensions and attributes provides a further important contribution. The dynamic nature of retailing and the increasing expectations of consumers means that what is considered convenient today may not be perceived as convenient tomorrow (Berry & Cooper 1990; Hazel 1992; Seiders et al 2000). Subsequently, any model based on attributes alone risks quickly becoming obsolete. As such, the relevance of the sixteen attributes is limited by time. However the finding that consumers define convenience in terms of its temporal, spatial and effort dimensions provides the necessary criteria by which to evaluate the convenience of attributes as retail innovations continue to arise and consumer needs change.

The finding that beliefs towards the convenience of attributes differ across consumers represents another important finding. While analysis of the sample as a whole found that retail centre convenience consists of sixteen attributes, this belief was not consistent across all respondents. Demographic characteristics such as age, income and location can determine whether an attribute is considered convenient or not. However the greatest variation in beliefs stemmed from differences in retail centre preference. Respondents with a preference for shopping centres consistently assigned greater convenience to the test attributes. This finding

is important for two key reasons. Firstly, there is a strong tendency for respondents to patronise the retail form they consider to be most convenient. However their patronage behaviour appears to be more closely linked to their beliefs towards the convenience provided by individual attributes rather then the actual provision of these attributes by either retail form. Secondly, analysis found that the more convenient an attribute is perceived, the greater its importance. Hence, it is important to acknowledge that beliefs vary across consumers, because these differing beliefs can lead to different behavioural responses.

This study also provides insight into the counter-intuitive finding that convenience is seemingly important in all aspects of consumers lives other then when patronising a retail centre. Where the literature does acknowledge the salient influence of retail centre convenience it is typically anecdotal in nature or based on trade surveys. This study establishes an empirical relationship between consumer perceptions of the most convenient retail form, and their most preferred and frequented retail form. The more convenient consumers believe a retail form to be, the greater the likelihood of patronage and the more often it is frequented. It was also established that convenience as an overall strategy and most of its individual attributes exert an important influence over consumers retail centre preference by shaping their attitudes towards a retail centre. Finally, it was also established that a relationship exists between the convenience of an attribute and its importance: the greater the degree of convenience associated with an attribute, the more important it is perceived to be.

The review of literature revealed that the importance of convenience in general varies according to consumers demographic and behavioural characteristics. This study found that consumers are generally consistent in their attitude as to whether an attribute of retail centre convenience is important or not. This finding makes an important contribution because it indicates the universal appeal of retail centre convenience. In spite of this there were still several significant trends. Contradictory to the notion that males possess a greater convenience orientation (Alexander 1988; Underhill 1999), females are more likely to assign greater importance to convenience attributes. The significance of this is emphasised by the fact that the majority of primary adult shoppers are female. Attitudes also vary according to age and income with older respondents and those on lower-incomes perceiving greater value in attributes that minimise the cost of intra-centre travel. Conversely, younger respondents and those on higher-incomes assign greater importance to attributes that save time. However, the most significant difference lay in the respective attitudes of respondents who prefer shopping strips as compared to those who prefer shopping centres. While they generally share similar attitudes towards whether an attribute was important or not, respondents that prefer shopping centres consistently assign greater importance to convenience attributes then their counterparts.

8.3.2 Methodological Contribution

The period 1977-81 witnessed the publication of numerous studies on the influence of various attributes over retail centre patronage (Bellenger et al 1977; Gentry & Burns 1978; Bellenger & Korgaonkar 1980; Houston & Nevin 1980, Howell & Rogers 1980; McCarthy 1980; Nevin & Houston 1980; Gautschi 1981). The impact of these studies was to not only suggest that convenience serves as a less-than-salient influence, but to also divert research focus away from convenience. Even though several more recent studies have been undertaken, they have yielded similar results. This may have much to do with the fact that they based their research methods on the preceding studies (e.g. Roy 1994). This study contends that these findings are the result of the failure to operationalise retail centre

convenience in a way that is consistent with consumer beliefs. As a result of this, cost-minimising attributes such as extended trading hours and one-stop shopping have been proffered as evidence that convenience is not a salient strategy.

The methodology for this study began by defining retail centre convenience using consumer sources of meaning such as dictionaries and thesauruses. This process identified that in the context of a retail centre, convenience occurs when the non-financial costs of patronising it are minimised. The review of literature revealed that the costs of shopping have long been recognised (Kelley 1958; Downs 1961; Bender 1967; Bucklin 1967; Hudson 1974; Narula et al 1983; Thill & Thomas 1987; Gehrt et al 1996), but as yet no study has utilised them to determine the meaning and importance of retail centre convenience. These were then used as the criteria for identifying the convenience attributes of a retail centre. This process therefore yielded a two-pronged definition, the first part relating to the costs of patronage and the second part relating to the attributes of a retail centre that influence these costs. This definition was then empirically tested against a sample of consumers to determine whether it was consistent with their own beliefs about retail centre convenience.

Analysis also measured the importance of the test attributes via several methods. The demand-side analysis of consumer attitudes began by determining the global importance of convenience. This is an important measure because attitudinal research that is limited to an attribute-by-attribute method fails to capture the abstract, gestalt nature of an attitude (Keaveney & Hunt 1992). This involved measuring the importance of convenience relative to alternative retail strategies and also determining whether the retail form perceived as most convenient was also the most preferred and frequented. Analysis then focused on the individual attributes of retail centre convenience. This involved measuring the importance of these attributes via respondents mean scores and the consistency of these attitudes. Correlation analysis was then used to measure the relationship between the convenience of an attribute and its importance.

A supply-side analysis was then undertaken to compare the two retail forms against the salient attributes of retail centre convenience as identified by the demand-side analysis. This was done for three reasons. Firstly, it provides further insight into the importance of retail centre convenience. If it does serve as a salient influence then the most preferred retail form should also be the most convenient. Secondly, it satisfies the recommended research requirement that the researcher utilise multiple methods of data collection (de Vaus 1995). Thirdly, its findings have important managerial implications. For example, the demand-side finding that convenience attributes serve as a salient influence, is of limited use to retail planners without the supply-side analysis of how the two retail forms compare against these attributes. The supply-side findings determine whether advertising or rejuvenation strategies should be utilised. If a retail centre rates highly in the provision of salient convenience attributes, such strengths should be promoted via advertising. If however it rates poorly, rejuvenation strategies should be used to improve the provision of these attributes.

The research method just described is straightforward and drawn from existing literature. Yet when compared with previous methods, its contribution becomes self-evident. As discussed in section 8.3.1 existing studies have typically assigned the term convenience to one of several factors used to summarise a range of retail centre attributes. Rather than originating from any operational definition, it is assigned according to the researchers own interpretation of its meaning. This approach has failed to provide a universal definition and therefore creates the potential for what de Vaus (1995) calls conceptual anarchy. Even more importantly,

as this study has shown, this method has yielded definitions that are not consistent with consumers own beliefs. Yet, these definitions have been used to account for their behaviour.

This study also contributes further empirical support for the relationship between attitude and behaviour. Analysis found that consumers prefer and patronise most frequently the retail form they regard as most convenient. They also frequent most regularly their preferred retail form. This indicates that understanding consumer attitudes provides a valid means of predicting their behaviour.

Tests for variations in respondents beliefs and attitudes across the four geographic zones suggest that this relationship may also work in reverse. Each of the four zones was characterised by differing levels of competition between the two retail forms. Variations in beliefs and attitudes across these zones suggest that patronage behaviour is shaped by the retail opportunities provided by the local environment. Respondents beliefs and attitudes to each individual attribute appear to be influenced by the extent to which the attribute is present in their local retail centres. The less prevalent the attribute is, the lower the degree of convenience and importance assigned to it. In other words, the predominant retail form within each zone provides shoppers' with a frame of reference against which each attribute is compared and rated. As such, there was evidence that in the context of multi-purpose shopping, attitude does not simply determine behaviour; it can also be shaped by it. This outcome is logical given that multi-purpose shopping refers to the act of purchasing higher-order and lower-order goods in the same trip (O'Kelly 1981). The attitude-behaviour relationship is considered to be valid for higher-order goods, but not lower-order goods because in this context the consumer may actually form attitudes as the result of their patronage experiences (Assael 1992). The use of multi-purpose shopping as the context for this study serves as an important contribution in its own right, because it is a context that has often been ignored in retail centre patronage studies (Blommestein et al 1980).

In the absence of existing scales for measuring the dimensions of retail centre convenience, new scales had to be developed. The reliability and validity of these was measured via Cronbach alpha, factor analysis, and discriminant and convergent analysis. This examination of their reliability and validity makes a substantial contribution to existing knowledge. These scales are based on constructs that reflect the generic meaning of convenience. Their generic origin suggests that their application need not necessarily be limited to the field of retail centre convenience, and could serve as the foundation for research into the convenience of other activities as well.

The final contribution stems from the supply-side analysis. Convenience has largely been ignored in academic efforts to explain the varying fortunes of shopping strips and shopping centres. Those studies that have included it have usually based their findings on anecdotal observation alone. This study not only provided empirical evidence that the shopping centre offers a more convenient shopping environment overall, it developed a method for comparing the two retail forms against each of the salient attributes of retail centre convenience.

8.4 MANAGERIAL IMPLICATIONS

This study has important practical implications for retail planners. A review of literature revealed the underlying academic proposition that lower prices and aesthetic, recreational and social strategies provide the best means for rejuvenating existing retail centres and ensuring their survival in light of the emerging threat of the Internet. Such a notion must be considered in the shopping context in which

consumers attitudes were measured. For example, while recreational and social strategies may be salient influences for single-purpose shopping trips for fashion and gifts, they are not important in the context of the type of shopping trips that occur most frequently. When purchasing convenience goods (Assael 1992) or multi-purpose shopping, convenience serves as the most important determinant over patronage behaviour. The failure of existing academic studies to recognise this may explain why rejuvenation efforts based around alternative retail strategies have often failed (Stokvis & Cloar 1991; Allan 1993; Fickes 1998; Worthington 1998).

The findings relating to its importance indicate that convenience should serve as a key strategy in the design and rejuvenation of retail centres. Moreover, it also provides a more realistic means of combating the Internet. The underlying motivation for Internet shopping is to avoid the inconveniences associated with patronising retail centres (Berkowitz et al 1979; Darian 1987; Yoffie 1997; Donthu & Garcia 1999; Porter 1999; Hazel 2001). If these inconveniences can be minimised via the thirteen salient convenience attributes, then the primary motivation for Internet shopping can be eliminated or at least reduced.

The finding that consumers believe that there are sixteen attributes that determine the convenience of a retail centre also has important implications for managers. Previous academic efforts limited the number of attributes to just four. Furthermore, many of these attributes were in fact symptoms. For example, *traffic hindrance* is a symptom of an excessive number of traffic controls, or traffic congestion created by funnelling heavy traffic flow into too few lanes. Similarly, speed limits, the number of lanes and the type of traffic controls determine *access time*. *Ease-of-wayfinding* is a symptom of compatibility, concentration and shopping services such as shopping maps and information desks. The convenience of parking is determined by three sub-attributes: the number and type of parking spaces, and their proximity to desired stores. As such, these definitions were not only limited by their inability to include all convenience attributes, they also often failed to specifically identify how to improve the convenience of a retail centre.

The variation in beliefs and attitudes towards the attributes of convenience also has important implications for retail planners. SSP appear to be less-discerning shoppers who emphasise the availability of parking, public transport, one-stop shopping, parking type, parking proximity and the proximity of the retail centre itself. If the shopping strip is to maintain its existing customer base, it must; (1) increase the number of parking spaces, and the proportion of space offered from car-parks; (2) manage its tenant-mix to ensure that it provides for one-stop shopping; (3) ensure it can be easily accessed via bus; and (4) promote its relative advantage in parking proximity and the proximity of the retail centre itself. Any efforts to increase its customer base should begin by focusing on NPP. NPP are similar to SSP in that they are less discerning shoppers. An obvious strategy would be to focus on the attributes of parking because they serve as three of the four most salient attributes to NPP. It is unlikely that SCP can be converted to SSP without significant effort. SCP appear to be far more discerning shoppers and assign greater importance to attributes in which the shopping strip is at a relative disadvantage.

For retail planners of the shopping centre a key means for retaining its current customer base lies in promoting its numerous relative advantages. It also has the potential to attract SSP. However this must go beyond simply promoting the type and availability of parking it offers and its ability to provide for one-stop shopping. While SCP value the convenience of enclosure, both SCP and SSP assign greater importance to parking proximity. In order to cater to both, the Australian shopping centre will need to follow the American trend towards providing individual stores with entrances that open directly onto the car park. Future developments should also

target in-town locations to ensure proximity to a large working population. Although this may compromise ease-of-access, the proximity of a retail centre rates above all three car-access attributes in importance. While the increasing mass of shopping centres was vilified by the lack of salience given to a compact size, planners should take into account the specific demographics of their trading area and the aging population in general. Older shoppers do consider the size of a retail centre when determining where to shop.

8.5 LIMITATIONS OF THE STUDY

The limitations of this study must be taken into consideration when interpreting its findings. Many of these limitations stem from the scope of the research, which was limited to a fifteen-kilometre radius within the greater Melbourne area. Even within this limited geographic sampling frame there were often significant variations in the beliefs and attitudes of respondents. Further research is therefore necessary to determine if the results from this study prove reliable in other markets.

The limitations imposed by the geographic scope of the study also apply to the supply-side analysis. It is unlikely that many of the supply-side findings would be replicated in the U.S.A. For example, while Melbourne's shopping centres are characterised by their ability to provide for one-stop shopping, shopping centre variants such as power centres and specialty centres which are far more prevalent in the U.S.A are less likely to do so.

Upon finalising the content of the questionnaire, it was sent to a graphic design department to make minor adjustments to its aesthetic appearance. In this process, the scale relating to the convenience of parking type was accidentally deleted. This error was not detected until data entry occurred some weeks later. As a result, there is no empirical evidence to justify its inclusion as a convenience attribute. Instead its inclusion must be evaluated in the context of existing literature, pre-test findings, its potential influence over the time and effort involved in parking a car and the correlation between the convenience and importance of an attribute (the type of parking offered serves as the fifth most important attribute).

The Likert scales and importance rating scales utilised in this study were treated as ordinally interval scales. While empirical evidence supports this assumption (DeVellis 1991; Albaum 1997; Loewenthal 2001) there are associated limitations. In the case of the Likert scale, it is impossible to statistically verify if a descriptor such as 'strongly agree' is one unit of belief away from 'agree', and so it serves as an ordinal scale. When primary scale point descriptors (e.g. strongly agree) have numbers arbitrarily assigned to them it can create a false relationship between the original scale descriptors. Similarly, an importance scale which only utilises anchor-point descriptors leaves the meaning of the in-between scale points to the interpretation of respondents. This forces the researcher and respondent to assume there is a known distance property between each of the scale points (Hair et al 2003).

The decision to utilise single-item scales to measure respondent attitudes and beliefs may be considered by some to be a contentious one. In order to develop a detailed definition of retail centre convenience, scales were developed to specifically measure its individual attributes. This inevitably led to the creation of one-dimensional scales thereby suggesting the use of single-item measures (Dillon et al 1994). There is an alternative viewpoint however that single-item measures should almost never be used to measure attitudes (Hensel & Bruner 1992). A fundamental disadvantage with using single-item scales is that in the absence of a test-retest method (DeVellis 1991), there is no direct method of assessing their reliability

(Burns & Bush 2000). While the reliability of the single-item scales utilised in this study was measured indirectly via factor analysis, the absence of a direct measure of their validity may serve as a limitation for some researchers and practitioners.

Analysis of the reliability of the Dimensions of Convenience scale using Cronbach Alpha revealed that the effort construct (.64) failed to reach the acceptable minimum alpha score (.65) for a new scale containing fewer than ten items per construct (DeVellis 1991; Loewenthal 2001). Further analysis revealed that the two reverse scored/negatively worded items were responsible for dragging the alpha score down. A similar effect occurred with the time and aesthetic constructs. While it has been recommended that the directionality of scales be varied so that some scales are worded positively and others negatively to avoid response set bias (Malhotra et al 2002), the wording of these scales may have violated the principle that questions be worded so that they are interpreted and understood in the same way by all respondents (Burns & Bush 1998).

It should also be noted that an analysis of respondent profiles indicated the potential for some non-response bias, with 18-38 year olds, participants residing in the northwest zone and those less educated being under-represented in the final analysis.

8.6 RECOMMENDATIONS FOR FUTURE RESEARCH

Due to the scope and nature of the research and the various shopping contexts, it naturally follows that there will be several areas requiring future research. One of the key objectives of this study was to address the gap between consumer and academic definitions of retail centre convenience. Such a gap creates the potential for supply and demand disequilibrium whereby based on academic findings, retail planners implement convenience strategies that do not meet the needs of consumers. This same gap could also arise if retail planners assign a different meaning then consumers to retail centre convenience. It is therefore recommended that future research focus on determining the meaning and importance that retail planners assign to retail centre convenience.

This study showed that consumers identify the dimensions of retail centre convenience as consisting of temporal, spatial and effort costs. Analysis suggests that safety may also serve as a dimension of convenience. Consumers' regard pedestrian areas as an attribute of convenience despite the absence of a link to the temporal, spatial and effort dimensions. In fact it could be argued that pedestrian areas, by forcing shoppers to vacate their car and walk longer distances, serve as a source of inconvenience (Steinhauer 1996). Instead, their perceived convenience could stem from the safety they provide by separating cars from shoppers. Further support for this proposition comes from the belief that higher speed limits are not an attribute of convenience despite the obvious influence they have over temporal costs. Future research should therefore seek to determine whether consumers believe that safety is also a dimension of convenience.

In order to enhance the validity of the attitude-behaviour relationship, the measurement of attitudes towards the importance of retail centre convenience was limited to a multi-purpose shopping context. The findings from this study indicate that in this context, convenience serves as the most important influence over patronage behaviour. It is also recognised as the determinant influence when shopping for convenience goods (Assael 1992). This raises the prospect that convenience may also serve as a salient influence over recreational shopping. Convenience and recreation are typically perceived as opposing shopping motives (Bellenger et al 1977; Bellenger & Korgaonkar 1980) in that a consumer seeks

either one or the other. However an integration of literature suggests otherwise. Consumers attempt to maximise shopping utility by minimising its costs. Shopping therefore represents an exercise in net utility maximisation. When a consumer perceives that the utility of visiting a retail centre exceeds its costs, patronage is the likely outcome (Bouchard 1973; Sheth 1983; Tang et al 2001). Depending on the consumer's shopping motivation, shopping utility should be influenced by the recreational appeal of the centre. The cost of patronising a retail centre on the other hand, is determined by its level of convenience: the more convenient the centre, the lower the cost. Hence patronage can be encouraged by increasing the recreational appeal of a retail centre, increasing its convenience, or both. Future research should therefore explore the possibility that convenience serves as a determinant influence even in the context of recreational shopping.

This study utilised a demand- and supply-side approach to measure the importance of retail centre convenience. Analysis indicated that consumers prefer the retail form they perceive as being most convenient. This decision is in turn based on their perceptions of the convenience and importance of each attribute. As such, patronage behaviour appears to be determined as much by consumer perceptions of attributes as it is by the actual provision of these attributes. It is possible that these perceptions are inaccurate, because consumers are influenced by their perception of reality, not reality itself (Bucklin 1967). Future research should measure consumer perceptions of how shopping strips and shopping centres actually compare against each of the salient attributes of convenience. This will provide important information for retail planners. A deficiency in a particular attribute indicates utilising a product strategy to improve its provision, while a relative advantage requires an advertising strategy to promote it.

An important contribution of this study was the original methodology developed for the supply-side analysis. However, much of this was based on literature that was anecdotal in nature and is now dated. Moreover, due to the lack of empirical research, it is possible that the methods used to determine the convenience of each attribute conflict with the criteria used by consumers. For example, there are two contrasting definitions of one-stop shopping. One view holds that a retail centre must be able to fulfil all consumer needs in order to provide one-stop shopping (Smith 1956). The opposing view holds that it must be able to provide for all but the most esoteric of shopping needs (Kaufman 1996). Using the second definition, the shopping centre was found to possess the greater potential for offering one-stop shopping. If however, consumers utilise the first definition, then the shopping strip with its many diverse functions is more likely to provide for one-stop shopping.

Finally, it must be remembered that retail centre convenience is a dynamic concept, and as such its meaning and importance will continue to evolve in line with consumers increasing expectations (Berry & Cooper 1990; Hazel 1992; Seiders et al 2000). That being the case, a longitudinal study utilising the same dimensions and convenience should be carried out in future years. Given its dynamic nature, it is possible that an identical definition of retail centre convenience could yield entirely different results in just a few years time.

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