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Item Type	Thesis
Authors	Ryan, Marie
Download date	2026-06-08 17:23:28
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Are Coach Tourists Different? A Segmentation Analysis of North
American Coach Tourists to Ireland

By

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National Centre for Tourism Policy Studies
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A Thesis Submitted to the Kemmy Business School at the University of
Limerick in Part Fulfilment of the Requirements for the Degree of Doctor
of Philosophy

Submitted to the University of Limerick May 2014

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Abstract

Are Coach Tourists Different?

A Segmentation Analysis of North American Coach Tourists to Ireland

Marie Ryan

This thesis analyses the travel and psychographic behaviours of the North American coach tourist visiting Ireland. There were 300,000 overseas coach tourists to Ireland in 2010 contributing an estimated €180 million to the Irish economy. 115,000 came from North America averaging a length of stay of 9 nights. The thesis's segmentation analysis is based on a unique survey of 741 North American coach tourists, with 486 responses useable for analysis. Segmentation analysis combines factor analysis to reduce the data and cluster analysis to group similar responses. These techniques, although popular within tourism literature, have never been used to analyse an inbound tourist market to Ireland, so this research fills a gap in Irish segmentation research. This research illustrates the usefulness of multivariate techniques in differentiating different potential markets in the tourism sector by providing an in-depth understanding of the type of North American coach tourist visiting Ireland. Four unique segments were identified: *the Active Indulgers*, *the Family Free Independents*, *the Family Focused Culturists*, and *the Traditionalists*. The four segments differ across eight key variables: socio-demographics, trip characteristics, activities pursued while on holiday, travel motivations, travel constraints, sources of holiday information, lifestyle characteristics of respondents, and the character types of respondents. The segments combine tourist characteristics in new ways not previously seen in the literature. This research therefore shows the importance of market segmentation, its extensive use in developing a better understanding of tourist characteristics and creating marketing strategies, and its under-use within Irish studies. The segments derived show that within the North American coach tour market there are distinct sub sectors, which could be profitably exploited. North American coach tourists are not simply a random sample of the larger tourist market, but have unique characteristics, and so the thesis recommends diverse coach tour packages that could be offered to improve Ireland's competitiveness in this market.

Keywords: market segmentation, multivariate approach, factor analysis, cluster analysis.

Declaration

I, the undersigned, declare that this thesis has not been submitted at any other University or Third Level Institution and that it is entirely my own work.

Marie Ryan

May 2014

Acknowledgements

Thank you to the Irish Hotels Federation (IHF) for providing the funds for these studies. These funds are very much appreciated. Thank you to my supervisor Prof. Jim Deegan, for facilitating this funded research and also for his guidance, in particular, for his detailed feedback and constructive comments at the editing stage. Thank you to the tour operators C.I.E and Royal Irish Tours who very kindly participated in this survey. Grateful thanks to Colin Mulcahy of Martin Mulcahy Tours Dublin. Thanks also to the many co-operative bus drivers I met along the way. I would have no data without their help.

I would like to thank my peers in the Centre for Policy Studies, Richard, William, Martin, Noel and Mona, for their help and guidance throughout this process. Thanks to Martin Kenneally, for giving me the time off work to finish my PhD, and to Kathleen O'Sullivan Department of Statistics, UCC for her statistical expertise. In particular, a special word of thanks must be extended to Richard Moloney and William Sjostrom. I will be forever grateful for all their help.

Finally, thanks to my family, my mum and dad, and especially my sister Eilish, for being there, and helping me through it all. Thanks to my close friends Justin, Lesley-Anne, Yvonne, Cliona, Mary, and Aoife for keeping me sane!! Without the help and support of my family and friends, I would not have made it through this stressful time - thank you all.

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List of Abbreviations

AF- Alpha Factoring

AIO- Activities, Interests, and Opinions segmentation

ANOVA- Analysis of Variance

BTS- Bartlett's Test of Sphericity

CFA- Confirmatory Factor Analysis

CIE- Coach tours of Ireland

CTTC- The Coach Tourism & Transport Council of Ireland

CSO- Central Statistics Office

DF- Degrees of Freedom

EFA- Exploratory Factor Analysis

ESRI- Economic Social and Research Institute

FA- Factor Analysis

HCA- Hierarchical Cluster Analysis

IHF- Irish Hotels Federation

ITA- Irish Tourist Association

ITB- Irish Tourism Board

ITIC- Irish Tourism Industry Confederation

KMO- Kaiser-Meyer-Olkin

ML- Maximum Likelihood Factor Analysis

NCC- National Competitiveness Council

NESC- National Economic and Social Council

PAF- Principal Axis Factoring

PCA- Principal Component Analysis

PFA- Principal Factor Analysis

RIT- Royal Irish Tours

SPSS- Statistical Package for the Social Sciences

STP- Segmenting, Targeting, and Positioning

TPRG- Tourism Planning Research Group

UPGMA- Un-weighted Pair Group Method using Arithmetic Averages

VALS- Values, Attitudes, and Lifestyles Segmentation

WTTC- World Travel and Tourism Council

WTO- World Tourism Organisation

CHAPTER ONE: INTRODUCTION

1. Introduction

To ensure Ireland remains globally competitive, this research investigates how factor analysis and cluster analysis can be used to segment an inbound tourist market to Ireland. The North American coach market follows similar trends to the overall coach market, indicating that there are many close substitutes in the global tourism market for Ireland. Altering products to cater for differing segments, (i.e. customer orientation) is crucial to future competitiveness. A renewed focus on the North American coach tourist is required because the market will remain important for Irish tourism. In an increasingly complex and highly competitive global marketplace, tourists' travel behaviours, travel activities, life-styles, and values have altered. Tourists travel to destinations for different reasons and failure to develop a marketing approach is likely to disadvantage destinations attempting to promote themselves in a competitive marketplace (Frochot 2005). There is increasingly a need for tourism providers to influence consumer decision-making, understanding who travels and why. Customer orientation is vital. Irish tourism providers need to place increased emphasis on, and suitably target, tourists (Fáilte Ireland 2007). Segmentation facilitates the promotion and targeting of specific markets in order to improve competitiveness and increase market size. Increasing the awareness of the North American tourists' motivations, activities, behaviours, attitudes, and character type improves the ability of tourism marketers to design and implement policies likely to increase future North American visits. The segmentation findings in this research can therefore present a competitive advantage to the Irish tourism sector in this highly competitive market.

1.1 An Overview of Tourism

The tourism industry is the largest service industry in the world. Over the last fifty years, the industry has experienced unprecedented growth. In 1950 there were 25 million international tourist arrivals globally, rising to 277 million in 1980, 435 million in 1990, 675 million in 2000, 940 million in

2010, and 982 million in 2011, surpassing 1 billion in 2012 (WTO,2012). In recent years, global economic shocks including the European sovereign debt crisis, economic recessions, political upheavals, economic uncertainty, credit squeezes, terrorist attacks, escalating oil prices, and natural disasters such as earthquakes, floods, mudslides, and volcanic ash have adversely affected the global tourism industry. Despite these on-going challenging environmental and economic conditions, the industry remains robust. In 2012, the travel and tourism industry contributed 9 per cent to world GDP (a value of over US\$6.6 trillion) and accounted for 260 million jobs accounting for 9 per cent of total employment (WTTC 2013). In 2012, the industry outperformed the world economy, growing faster (3 per cent) than the manufacturing, retail, financial services, and communications sectors (2.3 per cent). Moreover, 10 per cent of all new jobs created were within the travel and tourism industry (WTTC 2013).

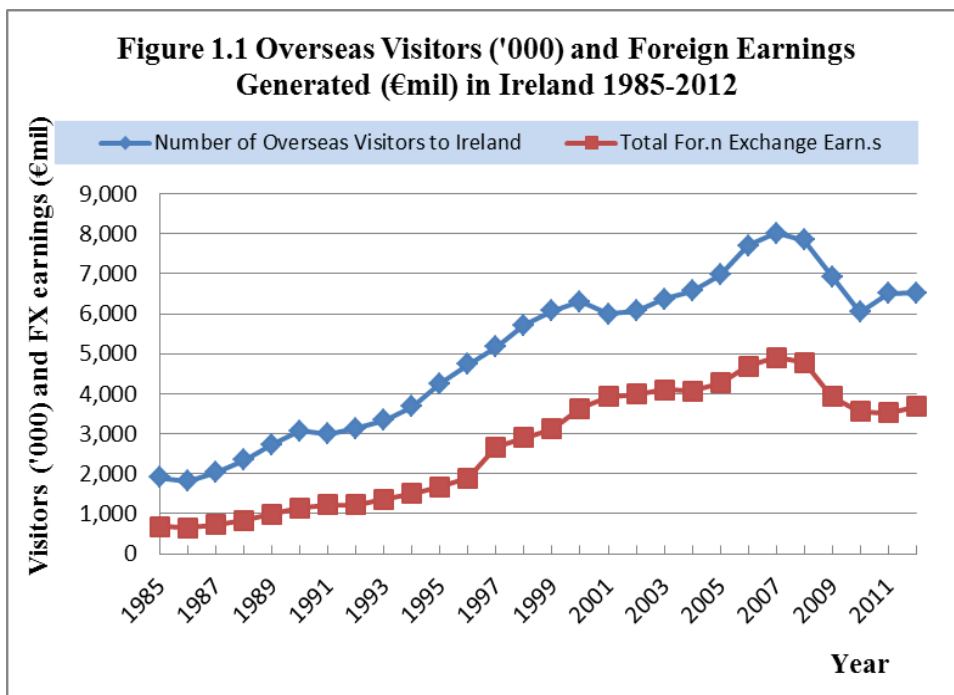
Forecasts for 2013 are similarly robust, with global travel and tourism's direct contributions to GDP expected to increase by 3.1 per cent, again outpacing the forecasted growth of the total global economy (2.4 per cent). Direct tourism employment is also projected to increase to 120 million jobs by 2022 (1.9 per cent annual increase), representing 3.6 per cent of total employment. In addition, projections to 2023 show travel and tourism's direct contribution to world GDP will grow, on average, 4.4 per cent per year (WTO 2012), and international arrivals are expected to reach nearly 1.6 billion by 2020 (WTO 2012).

The direct, total, and expected tourism contributions show that despite economic and environmental challenges, the global travel and tourism industry is an important economic driver for a country's development and growth strategy. The industry is, however, highly competitive, which is a major issue for Ireland.

Ireland's share of the international tourism market is determined by its competitiveness, which is to say its ability to respond to the characteristics of its potential tourists. New holiday destinations are emerging that

intensify global competition. As a result, Ireland is struggling to maintain its one per cent market share of the entire tourism market (WTO 2011). Competitive domestic prices, improved access costs, increased product availability, and improvements to product quality and service could increase Ireland’s competitiveness. An important way to compete effectively for international business is appropriately targeting consumers. This research segments one sample market into different groups, allowing a more focused and targeted approach. Since innovation involves the opening up of new market opportunities (Wanhill et al. 2008), innovating products to suitably cater to these different groups is valuable. The results of this research will therefore serve as a useful tool matching the needs of tourists with supply conditions in the Irish market. The tourist profiles emerging from this study will support practical product innovation and enhance competitive advantages for the Irish tourist product. Increasing Ireland’s competitive advantage would in turn, lead to job creations, higher revenues, and higher export growths.

Figure 1.1 illustrates the number of overseas visitors and foreign exchange earnings generated to Ireland since 1985.



(Data Source: CSO/Fáilte Ireland, Various years)

Allowing for the repercussions of the 9/11 terrorist attack and the outbreak of foot and mouth disease in 2001, Figure 1.1 illustrates the steady increase in overseas visitors and foreign exchange earnings generated in Ireland from 1985 to 2007. Between 1985 and 2007, overseas visitors to Ireland increased fourfold and foreign earnings generated increased sevenfold. In 1985, 1.95 million visitors travelled to Ireland generating €685 million in foreign earnings. In 2007, however, visitors and revenues to Ireland peaked. Almost 8 million tourists visited Ireland in 2007, generating €6.5 billion in total revenue, (€5 billion in foreign earnings), and contributed 4 per cent to Gross National Product (CSO 2010). Between 1985 and 2007, overseas tourism strongly contributed to the Irish economy.

Between 2008 and 2010, the Irish tourism industry hit a downturn both in tourism numbers and in revenue. Challenging economic conditions meant the number of overseas tourists fell between 2007 and 2010, from a nearly 8 million peak in 2007 to only 6.1 million. Earnings also fell steadily from the 2007 peak of €6.5 billion in 2010 to only € 3.5 billion in 2010. Despite these challenging times however, the Irish tourism industry, in line with global tourism trends, has been resilient.

Since 2010, the industry has shown recovery. In 2011, for example, overseas visitors increased for the first time in four years, by 6.5 per cent to 6.5 million visitors and in 2012 increased a further 0.3 per cent to 6.52 million visitors (CSO 2013). Total tourism and travel earnings from overseas tourists to Ireland also increased by 2.8 per cent from €3.6 million in 2011 to €3.7 million in 2012 (CSO 2013). Most recently, in the first quarter of 2013, these positive trends have continued. Overseas trips to Ireland increased 7.3 per cent on last year (from 1.1 million to 1.2 million) while total tourism and travel earnings from overseas tourists to Ireland increased 10.8 per cent¹ (CSO 2013). Moreover, even though emerging markets with average annual total growth rates of 5.6 per cent are now

¹ From €621,000 between Jan- March 2012 to €688,000 in Jan –March 2013.

outpacing advanced economies (including Ireland), with averages of 1.8 per cent (WTO 2012) opportunities exist to increase these growth rates.

One such opportunity is the fact that international tourist arrivals are expected to double to 1.8 billion by 2030, and international arrivals to Europe are expected to reach 240 million by 2020 (WTO 2012). To tap into this growing overseas market, the Irish tourism industry must compete. Ensuring price competitiveness is one strategy. Price competitiveness has been a major issue for the Irish tourism industry in recent years. Between December 2001 and December 2009, the price level rose over 18.7 per cent (CSO 2010), perceived value for money diminished, and inbound international travel fell. Recent government efforts including the reduction of VAT on tourism services and travel taxes have however improved Irish competitiveness. The EU Harmonized Index of Consumer Prices now shows the 0.5 per cent national annual rate of inflation lies significantly lower than the 1.5 per cent EU average. In addition, recent visitor attitude surveys show the perception of Ireland providing “value for money” is improving. Although these efforts have improved Irish price competitiveness, Ireland needs to do more to maximise the significant economic benefits of (overseas) tourism.

Globally, Irish tourism competitiveness is relatively stable. Based on 14 pillars of competitiveness relating to travel and tourism, Travel and Tourism Competitiveness reports show Ireland is currently ranked 19th out of 140 economies, down from 18th in 2008 and 2009, but up from 21st in 2010 and 2011 (World Economic Forum 2013). Despite this recent improvement, however, the 2012 National Competitiveness Council (NCC) report highlighted weaknesses in Ireland’s competitiveness. The report recommended decisive and calculated action to create an environment where business could prosper, job creation could become a reality, and exports could continue to grow (NCC 2012). One suggestion to improve tourism competitiveness was to examine the “degree of customer

orientation”,² i.e., segmentation. The usefulness of segmentation was also confirmed by the Irish Tourism Industry Confederation (ITIC 2011) when they highlighted a need to target tourists appropriately. The ITIC called for a more granular marketing approach promoting specific segments. Pizam (1999) had much earlier already indicated that competing effectively was highly correlated with the ability to tailor travel products to tourists' needs, expectations, and desires. Segmentation analysis is therefore a recommended and useful way to target international arrivals and improve Irish tourism competitiveness, and is the focus of this work.

1.2 Scope of Study

The North American coach tourist market in Ireland has already been analysed (ITIC 2008;³ Failte Ireland 2012⁴), but no research has provided an in-depth segmentation analysis using the applications of factor analysis and cluster analysis on an inbound market to Ireland. This research is therefore important because it identifies unique coach tourist segments. Economic benefits can consequently be maximised if both potential and current North American coach tourists are targeted appropriately. Moreover, the segmentation approach developed here can be readily applied to other tourist markets. Greater choice is important to the competitiveness of the Irish tourism industry (National Competitiveness Council 2012), and the segmentation analysis offered here helps facilitate greater choice within the North American coach tourist market to Ireland.

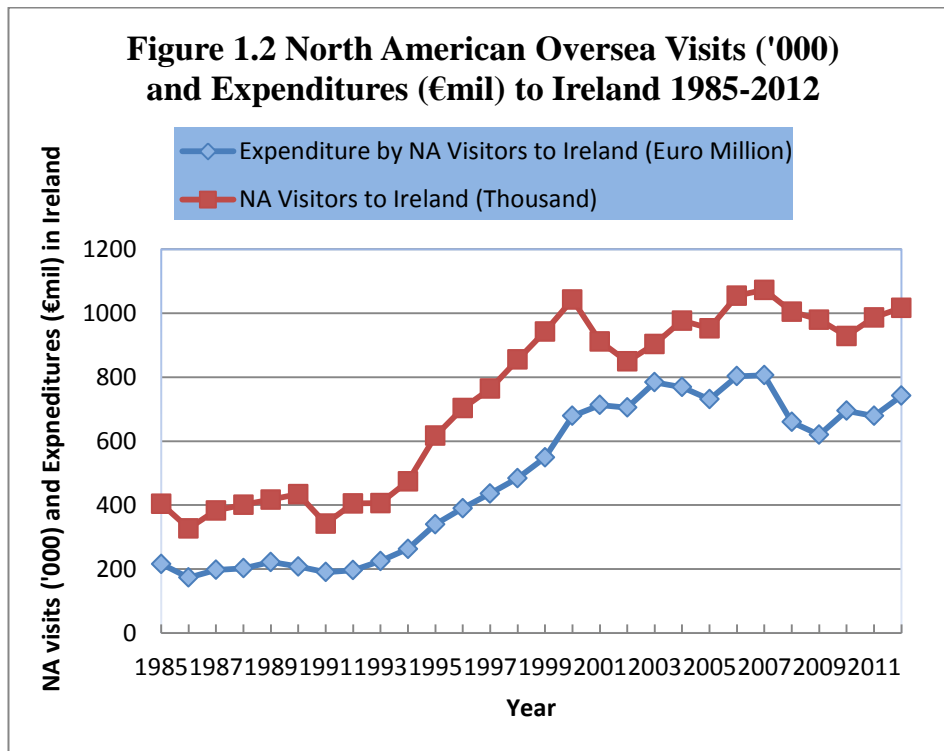
The North American tourist is analysed in the research as North American tourists are among the primary drivers of tourism growth in Ireland. Since 2007, North American tourists constitute, on average, 15 per cent of the total overseas market to Ireland. Figure 1.2 illustrates the number of visitors

² This indicator lies under the 12th pillar of competitiveness: “Affinity for Travel and Tourism”.

³ Review of Ireland’s Coach Tourism Sector and future recruitment challenges ITIC, 2008. <http://www.yumpu.com/en/document/view/6947438/review-of-irelands-coach-tourism-sector-future-itic>

⁴ Coach Tourism: a Sectoral Study, May 2012 http://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/1_Sectoral_SurveysReports/Coach-Tourism-Sectoral-Study.pdf?ext=.pdf

and expenditure patterns of North American visitors to Ireland between 1985 and 2012.



(Data Source: CSO/Fáilte Ireland, Various years)

Since 1985, visits and expenditures by North Americans to Ireland have increased. As with the global tourism market⁵, visits and expenditures decreased in 2001 and peaked in 2007. North American tourists are big spenders (Tourism Ireland 2006). For example, in 2006, with a total expenditure of over \$100 billion, North Americans were the second highest spenders on travel abroad globally with average spending per visitor increasing 8 per cent over the years 2002 to 2006 (Tourism Ireland 2006). Out of this, Ireland averaged €760 million per annum, and represented 18 per cent of Ireland's total foreign earnings. Even though visitors from the UK contributed more to foreign exchange earnings (30 per cent between 2002 and 2006), North American visitors spend (despite unfavourable exchange rates⁶) proportionally more (60 per cent) than any other visitor (Tourism Ireland 2007). In 2007, North American visitor numbers and expenditures peaked. Over 1 million, representing 14 per cent of total

⁵ See Figure 1.1.

⁶ In real terms Ireland was 45 per cent more expensive in 2007 for US residents than it was in 2002.

overseas tourists visited Ireland, and their spending constituted 16 per cent of total foreign earnings. Nevertheless, in line with total overseas visitors⁷ 2008 and 2009 saw a decline in North American visits and revenues. In these years, North American visitors represented 13 per cent and 14 per cent of total overseas tourists, while expenditures fell to 13 per cent and 15 per cent of total foreign earnings (Fáilte Ireland 2011). Despite declining visitor numbers and revenues generated, the North American market remained a significant contributor to Irish tourism at this time. From the peak of 2007, visitors declined by just 1 per cent and revenues declined by 2 per cent. Despite challenging climates, North Americans have proven to be a reliable revenue and visitor generator in Ireland.

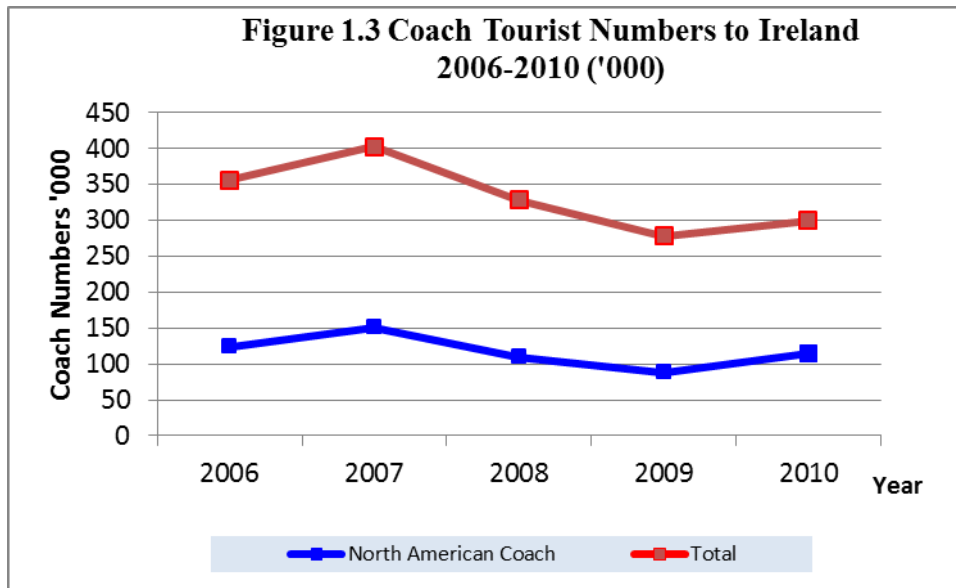
Since 2010, the North American market to Ireland has grown. After the drop from the peak in 2007, there was an increase in North American tourist numbers and expenditures from 2010 to 2012. The North American share of total foreign earnings increased from €695 million in 2010 to €742 million in 2012, rising from 19% of the total to 20% of the total. The number of visitors grew from 929,000 in 2010 to 1,017,000 in 2012, staying at 15% of the total. The number of visitors from January 2013 to April 2013 grew 17% compared to the same period in 2012, and revenues grew 4% over the same period. The North American market is therefore overall a consistent, resilient, and significant contributor to the Irish tourism industry.

1.2.1 Coach Markets

A key distinguishing factor of the North American tourist in Ireland is the likelihood that they tour extensively around the island of Ireland (Tourism Ireland 2010). An important cohort within the North American market is consequently the coach tourist. Figure 1.3 shows the total coach market in Ireland and the North American coach market in Ireland between 2006 and 2010⁸.

⁷ See Figure 1.1.

⁸ Most recent years available at time of writing.



(Data Source: Sea Carriers and Fáilte Ireland Survey of Overseas Travellers, 2010)

In 2006, 124,000 North American coach tourists (35 per cent of the total coach market) visited Ireland. Figure 1.3 shows North American coach numbers represented on average 14 per cent of the total North American market visiting Ireland and 37 per cent of the total coach market. North American coach tourists are consequently a clearly identifiable and distinct sector.

1.3 Methods

The most common quantitative methods available to identify market segments are the multivariate processes of factor analysis and cluster analysis. Market segmentation categorises customers and tourists into groups with similar preferences. In essence, segmentation partitions heterogeneous markets into smaller more homogeneous market segments. Market segmentation means, “Dividing a market into smaller groups of buyers with distinct needs, characteristics or behaviours who might require separate products or marketing mixes” (Kotler and Armstrong 2008:184). Segments are distinguished by different consumer needs, characteristics, or behaviours (Kotler 1980). With offers satisfying specific needs, groups of similar tourists can be identified and targeted (Haley 1968). Segmentation

is important as it enables destinations to attract tourists (Pike 2004). Segmentation can therefore facilitate the effective marketing of Irish tourism. A number of published research works including Dolnicar (2007), Laesser et al. (2006) and Upchurch et al. (2006), Inbakaran and Jackson (2005), Kotler et al. (2003) have not only improved the body of knowledge in this area but the literature also indicates segmentation can assist organisations to maximise financial resources. According to the UN World Tourism Organization (WTO 2007), identifying and targeting segments to purchase a destination's tourism goods and services is critical to a national tourism organisation's effectiveness and competitiveness. This research is the first to apply factor and cluster analysis to an inbound market in Ireland. The methodology can be widely used in many areas of Irish marketing in the future and as an instrument for public policy formulation and evaluation. The unique segments devised, can ensure Irish tourism remains competitive. Details of segmentation analysis are discussed in chapter three.

This work uses factor analysis and cluster analysis (multivariate techniques) to derive the market segments within the North American coach tourist market. Diverse segments will provide deeper insights into establishing who the North American coach tourist in Ireland is. The multivariate techniques assist in segmenting, identifying, characterizing, and targeting appropriate market segments (Chandra and Menezes 2001). Specifically, factor analysis identifies relationships that exist within a set of variables and reduces this list with a minimum loss of information. Factor analysis is carried out to make the dataset more user-friendly and manageable to ease the interpretation of results. Underlying common dimensions (factor variables) within questions are established. Cluster analysis uses these factor variables to classify respondents into groupings that display similar characteristics called segments or clusters⁹. Multivariate analysis therefore creates segment profiles allowing a complete segmentation of the target market. Detailed descriptions of these techniques are presented in chapters four and five.

⁹ The terms, groupings, clusters and segments are all interchangeable. They all imply the same thing.

This research develops and uses a unique in-depth questionnaire. Quantitative and qualitative data collection methods, including self-administered questionnaires and group interviews are carried out to assess the North American coach tourists' travel behaviours (trip type, activities sought) and psychographic (character type, life focus) behaviours. Results and analysis of this unique primary research are contained in chapters six, seven, and eight. Definitive results, implications, and recommendations are presented in chapter nine.

1.4 Contribution of Study

This research explains how factor analysis and cluster analysis can successfully segment the market, allowing policymakers to appropriately target and capture more tourists and generate greater revenues. Irish tourism's competitiveness is consequently improved, leading to greater job creations, export growth, and increased exchequer revenues. In addition, the application of factor analysis and cluster analysis to identify segments within the coach industry can act as a template for further research in other markets, both tourism and non-tourism related.

Consequently, there are three research tasks in this research:

1. Identify the usefulness of segmentation analysis;
2. Devise a unique instrument (questionnaire) to analyse the North American coach tourist market in Ireland;
3. Apply the techniques of factor analysis and cluster analysis to identify underlying dimensions (factors) in the variables and highlight specific sub-groups within the North American coach tourist market.

Completing the three tasks contributes to the overall aim of this thesis: to develop a comprehensive segmentation model, using factor analysis and cluster analysis to assess the travel behaviours (trip type, holiday activities

etc.) and psychographic behaviours (life focus, character types of tourists etc.) of the North American coach tourist visiting Ireland. The segmentation model will be used to lay the groundwork for some policy issues in Irish tourism, and to address the question of whether North American coach tourists to Ireland are simply a random sample of tourists to Ireland, or are they in important ways different, requiring unique marketing.

Figure 1.4 (overleaf) contains a diagrammatic representation of the framework employed to achieve the objectives in this research. The framework outlines the progression of thought within the research including chapter aims and purpose. Figure 1.4 indicates the methods formulated to address the objectives are presented in chapters three, four, five, and six. Drawing from published segmentation literature and its range of uses, secondary sources are used to address the first objective. The second objective details the development of the unique questionnaire, specifically designed for this research to collect data on the North American coach tourist in Ireland. The third objective reviews published research applying the methods of factor analysis and cluster analysis, and explains how these statistical techniques can derive diverse sub-groups in a market.

This research is unique. It applies factor and cluster analysis to a purpose built survey to identify segments among North American coach tourists in Ireland, allowing an assessment of their travel behaviour and psychographic behaviour. The next chapter outlines the development of Irish tourism.

Figure 1.4 Thesis Framework

CHAPTER TWO

- Summarizes development of tourism in Ireland
- Details overseas tourism since 1985
- Assesses recent factors affecting international Irish tourism

Aims and Purpose

- Highlights importance of tourism, and contribution of North America to Irish economy
- Explains how far Irish tourism has come in recent decades
- Highlights the origins of segmentation in Ireland

CHAPTER THREE

- Defines concept and usefulness of segmentation
- Reviews literature detailing segmentation models
- Describes how under used segmentation is within Irish tourism

Aims and Purpose

- Answers objective one
- Assesses segmentation literature, validating placement of questions in the study's questionnaire
- Explains how study fills a void in Irish tourism literature

CHAPTER FOUR

- Defines factor analysis
- Details steps involved in carrying out factor analysis.
- Helps reader understand factor analysis
- Condenses lengthy lists of variables so segmentation can be carried out

Aims and Purpose

CHAPTER FIVE

- Define cluster analysis
- Describes steps involved in carrying it out
- Clarifies how cluster analysis is applied to this dataset.
- Determines the final number of cluster segments within this study

Aims and Purpose

CHAPTER SIX

- Discusses the research design process
- Justifies research methods, implementation + analysis
- Analyses non-response bias

Aims and Purpose

- Assesses and justifies methodological choices
- Answers objective two
- Clarifies non-response data

CHAPTER SEVEN

- Factor analyses pull and push motivations, activities sought on holiday, holiday constraints, life focus over the next five to ten years and character type questions.

Aims and Purpose

- Applies factor analytical techniques to the dataset
- Highlights the independent factors used in the next stage of research; cluster analysis

CHAPTER EIGHT

- Complete segmentation analysis and conclusions
- In depth analysis of segments, running of crosstabs on previously unused variables

Aims and Purpose

- Identifies and labels four-cluster segments. Answers objective three
- Applies socio-economic variables to final segments for complete segment overview

CHAPTER NINE

- Conclusions, implications and recommendations

CHAPTER TWO: TOURISM IN IRELAND

2. Introduction

This chapter highlights the importance of tourism to the modern Irish economy. “In 2009, enterprises operating in tourism industries accounted for 11.4 per cent (more than 23,000 enterprises) of all enterprises in the state and 15.3 per cent of persons engaged (over 205,000 persons) in business enterprises” (MacFeely et al., 2013:5). When compared with total employment as recorded by the labour force survey¹⁰, employment in tourism industries accounted for 10.6 per cent of the total in 2009 (up from 10.2 per cent in 2006) (Ibid). A key contributor to these employment levels was the North American tourist.

Section 2.1 summarizes the development of Irish tourism policy in Ireland from 1922-2010. This is followed by details of the performance of Irish tourism from 1985 to present day. Section 2.3 discusses the North American contribution to Irish tourism while Section 2.4 discusses the factors affecting Irish tourism growth. Section 2.5 outlines recent Irish tourism initiatives while Section 2.6 concludes the chapter.

2.1 Irish Tourism Development

Since Ireland’s political independence, the tourism sector has been a major driver of economic development. Table 2.1 summarises the history of Irish tourism development from 1925-1999.

¹⁰ In Ireland, the Labour Force Survey is compiled as part of a wider Quarterly National Household Survey (QNHS).

Table 2.1 Development of Irish Tourism	
Year	Developments
1925-1939	-Irish Tourism Association established -North American aviation links formed -Shannon airport developed -Irish Tourist Board created -Aer Lingus formed -Development of accommodation facilities
1944- early 1950s	-Shannon airport opened. First duty-free airport -Infrastructure lagged -Priority on quality tourist accommodation -Christenbury report- ↑ support and income from Government
1952-58	-Tourism Traffic Act -Bord Failte/Fogra Failte established -Focus on tourism infrastructure, publicising and promotion -US market identified -Government support stabilised
1958-'66	-Government focus increase. -1 st and 2 nd programme of economic expansion -3 Tourism Traffic Acts. -International promotion/marketing of Bord Fáilte
1960-1980	-Northern Ireland crisis decreased tourism demand -Tourism renamed Dept. of Industry, Commerce and Tourism -NESC report – need for policy change -Lack of emphasis continued
Mid/late'80s	-Priority on tourism -White paper report published -Gov targets stimulated growth
1989-1999	-1 st and 2 nd Operational Programmes for Tourism -Public funds available -Gov funding ↓ -First signs of segmentation

In 1925, the Irish Tourist Association (ITA) was established. Funding for the ITA relied on contributions from hotel owners, railways, shipping companies, retailers and some councils and corporations (Wright and Linehan 2004). Under the 1931 Tourism Traffic Act, the government became directly involved in the development of Irish tourism. All tourism funding provided went directly to the Irish Tourist Association (ITA). At this time, the Irish government recognised Ireland's key geographical position for the development of a North Atlantic aviation route. In 1936, Aer Lingus was formed, and an agreement was reached (between Britain, Canada, Newfoundland and the Irish government) establishing mail and passenger services to North America. In the agreement, Taoiseach Eamon DeValera specifically entered the clause: "subject to force majeure, all

eastbound aircraft on the transatlantic air service on the direct route shall stop at the Irish Free State Airport as the first European port of call, and all westbound aircraft on the direct route shall stop at the Irish Free State Airport” (Quinlan 1988:43). Consequently, Shannon airport was built. Links with the North American market were forged¹¹. Before World War II, little was done in terms of Irish tourism policy and overseas competitiveness. World War 2 meant commercial tourism ceased. Although, the Irish Tourist Board (ITB) was created in 1939 to assist in the development of accommodation and other tourism facilities, international tourism and the activities of the board were restricted until the end of the World War.

During the war however, there were major advancements in aviation. In 1944, a bi-lateral agreement (signed between the Irish government and the USA) meant all US aircrafts stopped at Shannon. This gave Ireland a platform. Services to Shannon increased and the Customs Free Airport Act of 1947 awarded Shannon the first duty-free airport status. The Irish market was now exposed. Ireland and the Irish tourism market could now compete internationally. International arrivals (at Shannon airport) increased from 315 arrivals (4323 passengers) in 1945, to 6,000 arrivals (over 170,000 passengers) in 1947. However, due to a lack of suitable infrastructure, Ireland could not exploit this growth in visitors (Deegan and Dineen 1997).

During the late 1940’s and early 1950’s, the Irish Tourist Board prioritised the availability of quality accommodation. A change in policy and government led to numerous tourism reports, cumulatively known as the Christenbury report (1951). The reports led to greater support from the government. In 1952, the Tourism Traffic Act created Bord Fáilte¹² and Fógra Fáilte to develop the tourism product. Funding provided was to improve hotels, and to publicise and to promote Ireland. A primary market identified for development was the United States. The aim was to increase

¹¹ Ireland currently remains a stopover for the US military.

¹² Bord Failte was replaced with Failte Ireland in 2003.

traffic using an advertising and publicity campaign. From the earliest years of the state, North America was therefore emphasised as an important tourist segment for Irish tourism.

Up until this time, there was little quantitative measurement of tourism contribution to the Irish economy. Revenue estimates were conjectural. According to Deegan and Dineen (1997), during the 1940's tourism receipts increased from IR£2 million in 1942 to IR£33 million in 1948. According to Quinn (1961), tourism development during the 1950's was slow. From 1955 and 1958, the increase in Ireland was 12 per cent, well below other countries such as Britain (25 per cent), France (30 per cent), Italy (48 per cent), and Germany (64 per cent). However, support from government did increase every year to 1968 (Deegan and Dineen, 1997).

From 1960 onwards, Irish tourism became increasingly important. In the First Programme of Economic Expansion (1958-1964), the government gave priority to tourism (NESC, 1980). Tourism was recognised as an employment generator and a significant contributor to the balance of payments. Priorities included increasing the number of accommodation facilities, and improving the availability of amenities and general infrastructure required by tourists travelling in Ireland (Deegan and Dineen, 1997).

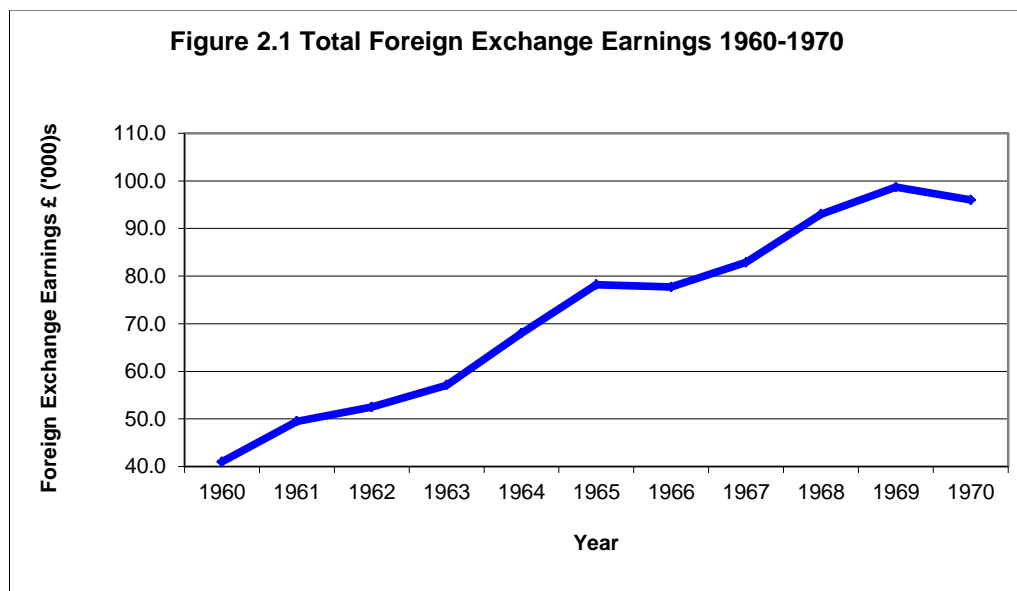
The Tourism Traffic Act of 1961 consisted of three main components.

- Funds of IR£5million would be available to Bord Fáilte over a seven year period (an increase of 40 per cent)
- An IR£2 million loan increase (from IR£3million to IR£5 million) to Bord Fáilte to develop hotel and tourist resorts.
- Remove the IR£75,000 interest limit Bord Fáilte had to pay on loans for hotel development.

Subsequent Tourism Traffic Acts increased the availability of funding for the further development of facilities and amenities. Moreover, the 1966

Tourism Traffic Act introduced additional significant changes. Not only did the act initiate a Second Programme for Economic Expansion in 1964, there was also a provision of finance for the international promotion and marketing activities of Bord Fáilte (The Stationary Office, 1964). The provision of finance meant the IR£5 million loan limit allocated for promotional and marketing activities (introduced in the 1961 Act) was removed. Loans were now determined on a yearly basis by the Minister for Transport and Power and the Minister for Finance. This was a positive move for the industry as funds could now be made available for visitors (and the domestic market) enhancing Ireland's attractiveness as a tourism destination (Deegan and Dineen, 1997).

Although the First Programme for Economic Expansion (1959-1964) acknowledged the potential of tourism, the programme failed to provide the necessary finance to fulfil this potential. The Second Programme for Economic Expansion aimed to double tourism income between 1960 and 1970. Figure 2.1 illustrates this trend in foreign exchange earnings from 1960 to 1970.

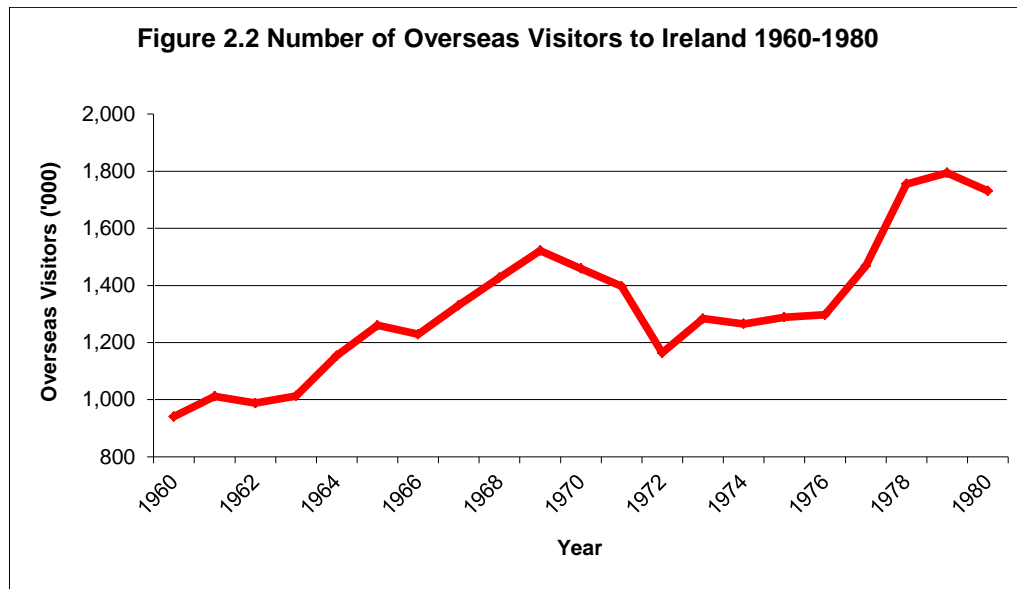


(Data Derived from CSO/Fáilte Ireland, Various years)

According to Deegan and Dineen (1997), total tourism revenue (including carrier receipts and tour revenue) increased by 47 per cent in real terms throughout 1960 and 1970. During this decade, real direct capital

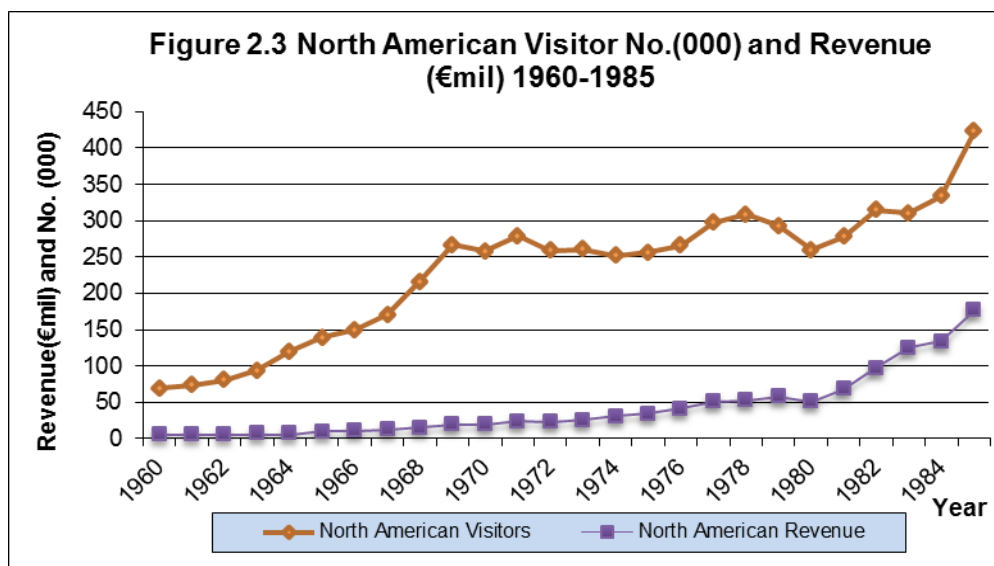
expenditure also increased totalling IR£14.4 million (Bord Fáilte, various years). The success of the Second Programme for Economic Expansion is highlighted in Figure 2.1, as foreign exchange earnings increased from £41 million in 1960 to £96 million in 1970.

Figure 2.2 illustrates the trend in overseas tourists between 1960 and 1980.



(Data Derived from CSO/Fáilte Ireland, Various years)

Total overseas visitors increased 55 per cent between 1960 and 1970 (from 941,000 visitors in 1960 to 1.46 million visitors in 1970). However, the Northern Ireland crisis in the late 1960's and early 1970's triggered a decline in overall Irish tourism demand. In 1972, overseas visitors fell to 1.1 million (to 1964 levels). During this time, the growth in visitors from overseas averaged annual increases of only 1.7 per cent, while other European countries experienced growths of between 7.5 and 19 per cent. However, overseas visitors did start to increase from 1972, reaching 1.79 million in 1979. Figure 2.3 shows the North American market played a significant role in this increase.



(Data Derived from CSO/Fáilte Ireland, Various years)

The trend in North American visitors and revenues generated from 1960 to 1985 indicates a strong demand for the Irish tourism product. Between 1960 and 1970, visitors from North America increased 73 per cent (from 69,000 visitors in 1960 to 258,000 in 1970). Revenues from these out-of-state visitors also increased. Between 1960 and 1970, North American revenues increased 222 per cent between 1960 and 1970. However, the Northern Ireland crisis meant Ireland's share of the US market to European countries fell from 8 per cent in 1970 to 6 per cent in 1980. In 1980, the share of North American's travelling specifically to Ireland declined by 3 per cent (from 18 to 15 per cent) with visitors falling to 260,000. However, during this time, 16 per cent (average) of the total overseas market to Ireland were North Americans, constituting 27 per cent to overall revenues generated. North Americans were, at this time, significant contributors to Irish tourism.

In 1980, the importance of Irish tourism was recognised more clearly. Consequently, the Department of Industry and Commerce was re-labelled as the Department of Industry, Commerce, and Tourism. However, the National Economic and Social Council (NESC 1980) report criticised the governments' attitude towards tourism policy development (Deane 1980). The report emphasised a need for major policy changes if the tourism sector was to develop. In the 1980's, the tourism industry revived. In this decade,

employment in the services sector increased by 1.5 per cent per annum (O’Leary 2001) at the same time total employment was falling. Tourism was consequently given more priority by the Irish government. The industry was seen as a strong export earner, generating more employment relative to foreign receipts (Deegan and Dineen 1997). Emphasis on competitiveness and demand was needed by the government to ensure the industry’s benefits were capitalised.

In 1985, the Irish government published a White Paper on tourism policy (The Stationary Office 1985). The report emphasised the importance of job creation and regional development. Several objectives were highlighted. The effects of the programmes for economic expansion meant visitor numbers increased. In 1985, for example, Irish tourism witnessed a peak in overseas visitors (1.9 million visitors) generating £459 million in revenue. North American visitors and revenues also increased in the 1980’s. Numbers peaked in 1985 to 423,000 visitors, generating £177 million in revenue (CSO 2012). The White Paper had no long-term planning or government strategy (Deegan and Dineen 1997). Government targets for 1988-1992 did however include doubling the number of overseas tourists (to over 4 million over the 5 years), doubling the revenues to IR£500 million, and creating 25,000 more jobs (The Stationary Office 1989). These targets were successful.

In 1988, Bord Fáilte published the first ‘Operational Programme for Tourism 1989-1993’ (Department of Tourism and Transport 1989). This coincided with the availability of European Union structural funds. For the first time, major public funds were available to tourism. Under the programme, there were three broad areas for development in tourism. Firstly, expand and speed up the development of tourism infrastructure. Secondly, increase and diversify the products available, and thirdly, extend the scale of tourism development. To specify product development five themes were selected, including, active specific groups (e.g. golf), passive specific groups (e.g. genealogy), cultural and heritage, entertainment, leisure, fitness and health, and business and incentive travel (Deegan and

Dineen 1997). For the first time in Irish tourism, the industry was divided into diverse groupings. These witnessed the first attempt at segmentation within the Irish tourism industry.

Between 1989 and 1993 approximately IR£450 million was spent on tourism and almost IR£380 million was supported through the programme. The EU funded 49 per cent, of the IR£380 million, 34 per cent came from the private sector and 17 per cent from the Irish exchequer (Deegan and Dineen 1997). Irish tourism's appeal to a broader spectrum of overseas tourists, was developed. However, an Economic and Social Research Institute (ESRI) report in 1993, questioned the programme's use of structural funds for private tourism projects. The report highlighted the main beneficiaries were local residents and not international tourists. This argument however is questionable, because the development of tourism infrastructure allowed improved marketing to develop foreign markets.

The objective of the Second Operational Programme for Tourism (1994-1999) was to "maximise Ireland's potential by increasing tourism revenue, thereby creating much needed employment" (Deegan and Dineen 1997: 230). Three quantitative and two qualitative targets were outlined in the programme. The targets included:

- Increase foreign receipts from IR£1367 million in 1993 to IR£2250 million in 1999.
- Increase direct tourism employment by 29,000 full-time jobs and 6,000 jobs in construction.
- Increase off-peak tourism by 5 per cent (from 70 to 75 per cent)
- Develop and market the Irish tourism product in line with international market demands, while conserving and protecting natural heritage.
- Improve the quality of tourism products, service, and value for money.

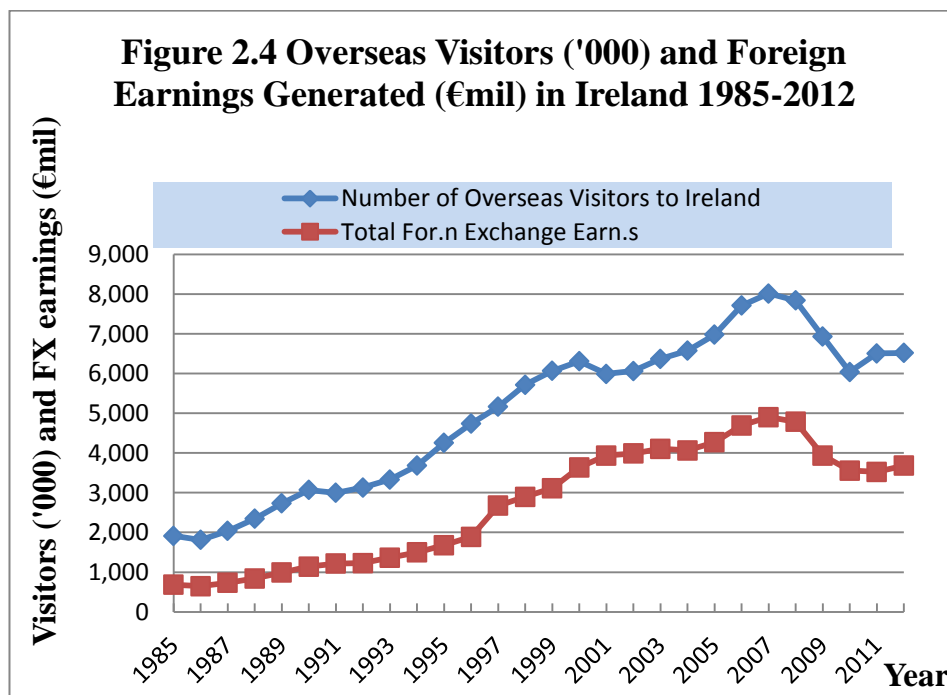
(The Stationary Office 1994)

State funding continued with the Second Operational programme. The Second Operational programme also placed investment funds on specialist activities. Special interest holidays were targeted, moving from generic holidays to differentiating active and passive holidays. Grouping activities into themes was the second attempt of segmentation within the Irish tourist industry.

Between 1989 and 1999, the nature and scale of investment in Irish tourism changed. On the supply side, the tourism product was enriched, visitor satisfaction was increased, and visitor numbers were boosted (Fitzpatrick and Associates 1997), although growth rates were deemed not as great as those experienced between 1985 and 1990 (Deegan and Dineen 2000). In addition, the majority of tourism growth during the 1990s occurred in Dublin (ESRI 1997). However, the diversification of products and subsequent investment did show signs of market segmentation within the Irish tourist industry.

2.2 Performance of Irish Tourism

Since 1985, the Irish tourism industry has been significant in terms of numbers and earnings generated. Figure 2.4 shows overseas visitors and foreign exchange earnings into Ireland since 1985.



Since 1985, there has been steady growth in overseas numbers and revenue. Overseas arrivals increased from 1.95 million in 1985 to over 6 million in 2000. Total overseas tourists increased from 2,345 in 1988, to 3,069 in 1990, and 3,128 in 1992. Visitor numbers rose to over 6 million in 2000. Between 1985 and 2001, total overseas arrivals increased 204 per cent¹³. Revenue increased over 400 per cent, and tourism employment increased from 38,685 jobs in 1985 to 145,000 jobs in 2000 (Bord Failte Tourism Facts, Various Years).

In the first decade of this century, numbers have fluctuated but have remained relatively steady overall. International conditions contribute to these trends. In 2007, visitors and revenues to Ireland peaked. In this year almost 8 million overseas tourists visited Ireland and half were holiday visitors (ITIC 2011). The industry generated €6.5 billion in total revenue, with 5 billion consisting of foreign earnings (approximately 4 per cent of Gross National Product) (CSO 2010). Since 2008, however, the gains achieved in previous years have diminished. Between 2007 and 2008, the number of overseas tourists fell 2 per cent to 7.80 million. In 2009, visitors fell again to 7 million, a decrease of 13.5 per cent from the peak of 2007. Total overseas trips to Ireland in 2009 fell to 6.5 million and growth in overseas tourism over the decade (2000 and 2009) was just 6 per cent. In 2010, visitor numbers hit 2004 levels (with 6.1 million visitors), down 25 per cent on 2007.

Total foreign exchange earnings similarly fell. From a peak of €5 million in 2007, foreign earnings fell 2.4 per cent (to €4.7 million) in 2008 while earnings fell again in 2009 to €3.9 million (down 20 per cent on 2007). The year 2010 showed similar trends with earnings falling to 1999 levels (generating €3.5 million), 27 per cent lower than the peak of 2007. This meant there was a 1.7 billion euro reduction in total overseas tourism earnings. The ITIC indicated that total overseas revenue declined in excess of 30 per cent between 2007 and 2010 (ITIC 2010), along with an estimated

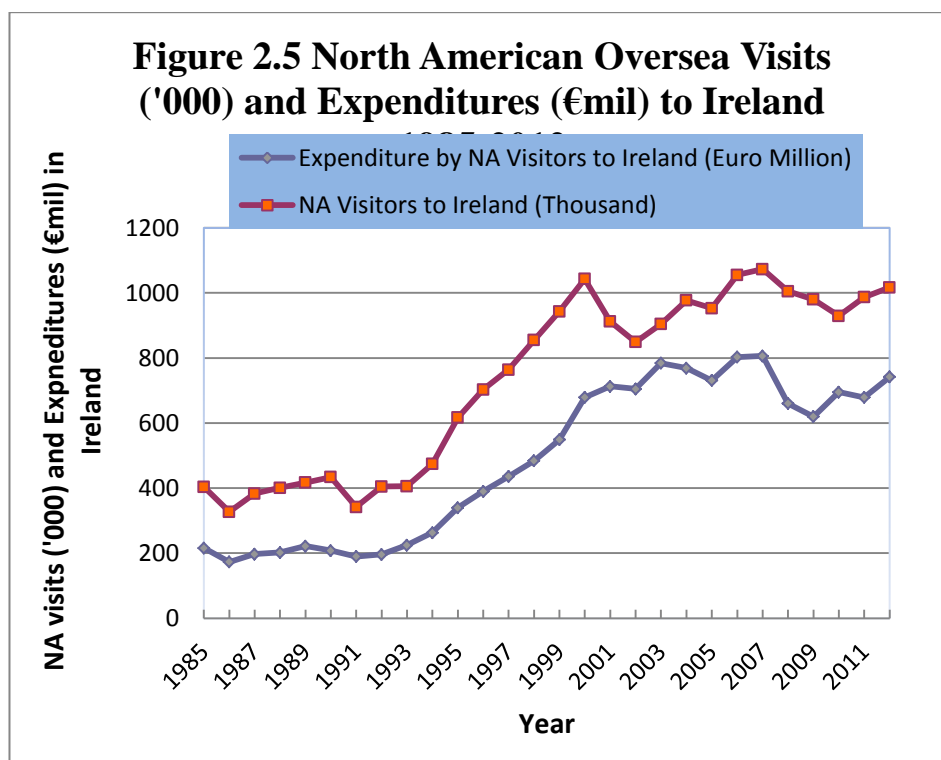
¹³ See Appendix A for a breakdown of this data.

84,000 job losses between 2007 and 2009 (Failte Ireland 2010). However, in 2011, the industry showed its resilience. For the first time in four years, overseas visitors increased 6.5 per cent on 2010 to 6.5 million (CSO 2012).

Surviving downturns show the industry is robust. Since 1985, the determinants of tourism growth have been demand driven. Tourism demand is sensitive to external international conditions. However, external factors are beyond domestic control, so focus for the Irish tourism industry must be on internal factors. Policy factors within domestic control are price competitiveness and product innovation. Using factor and cluster analysis, this study investigates the issue of product innovation within the North American (coach) market.

2.3 The North American Contribution to Irish Tourism

The North American market is analysed because it consists of unusually big spenders, they arrive reliably, and they place a large emphasis on brand retention (i.e. everything Irish). Figure 2.5 shows there is steady growth in North American overseas visits and expenditures to Ireland.



(Data Source: CSO/Fáilte Ireland, Various years)

North American visits averaged 350,000 between 1985 and 2001. Expenditures increased over 130 per cent between 1985 and 2001 (from £216 million to €713 million). The first noticeable increase in visitors was in 1995 when visits increased 23 per cent (from 474,000 to 617,000). According to Deegan (2002), between 1997 and 1999, the average annual growth rate in overseas visitors to Ireland was 8.9 per cent. However, between 1999 and 2001, this figure decreased to -0.1 per cent and North American growth rates fell from 10.3 per cent to minus 2.3 per cent. Since 2001, numbers have remained relatively steady. In 2010, the North American expenditure share of Irish total foreign tourism earnings was three percentage points higher (19 per cent or €695 million) than the peak of 2007 and, in the same year, their share of the overseas market was one per cent higher (at 15 per cent or 929,000 visitors) than the overall visitor peak of 2007. Overall, throughout this decade, North Americans averaged 14 per cent of the total overseas tourist and revenue market. North Americans are consequently a resilient market, and are significant contributors to the Irish tourism industry.

A number of factors contributed to the increase in visitor numbers and revenues between 1985 and 2001. The success of the operational programmes for tourism (Section 2.1), the increased interest in Irish culture and heritage, such as River dance, U2, and Irish movies, the competitively priced environment due to good macroeconomic management (Woods and Deegan, 2006), more affordable airline prices, and joining the euro helped the industry. The successful development and delivery of the Irish product increased numbers. However, at a time, when the market for North American tourists is growing worldwide, product innovation must continue for Ireland to remain competitive. Unless the Irish tourism industry competes, lower prices and product innovations in other destinations will reduce Irish market share. This work examines one aspect of the North American market, the coach tourist market. The information gathered will help to innovate appropriate products so Irish tourism providers can compete.

2.4 Factors affecting Irish Tourism Growth

Between 2000 and 2010, international tourist arrivals in Europe grew by 17 per cent. At the same time, world tourism arrivals grew by 35 per cent (from 698 million to 940 million (WTO 2011)). Ireland must compete for its share. Irish tourism is affected by both external factors and internal factors (including both price competitiveness and product innovation). This section discusses the role of these factors in Ireland's poor performance in the tourist market.

2.4.1 External Factors

Trends in Irish tourism growth reflect trends in the world market. From 1985 to 2007 world tourism increased by 181 per cent (from 320 million in 1985 to 900 million in 2007). However, international factors impacted strongly on these figures. For example, in 2001, The World Tourism Organisation (WTO) estimated international tourist arrivals fell for two reasons: the global economic slowdown and the 2001 terrorist attacks in the US. According to a 2002 Irish Tourist Industry Confederation (ITIC) report, 2001 witnessed a decline of at least 7 per cent (770,000 fewer visitors) in visitor arrivals and CERT estimated that in 2001 alone, within the hotel, restaurant, and bar industry more than 8,000 full-time and part-time jobs were lost. This fall had a dramatic effect on all aspects of the tourism industry - from the accommodation sector to tour operators to retail outlets. Overseas trips fell to an all-time low of 5,840 million arrivals. The downturn also meant a loss in overseas earnings of up to 317 million euro (CSO 2002).

Economic, political, and environmental disasters have also affected international and Irish tourism. Tajeddini (2009) argues that the tourism and hospitality industry are very vulnerable to economic and environmental changes and incidents such as natural disasters. This is true in the case of Ireland. Unexpected crises like foot and mouth disease in 2001 and the outbreak of SARS, as well as the volcanic ash over Iceland have negatively

affected the Irish sector. For example, the single outbreak of foot and mouth in the Republic of Ireland cost the tourism industry an estimated 200 million euro (McDaid 2002). In addition, the eruption of the Icelandic volcano Eyjafjallakokull in 2010 threatened Irish tourism as volcanic ash shut down entire European airspace. The outcome meant fewer (151,300 or 25 per cent) foreign tourists visited Ireland in 2010 than in the corresponding month in 2009. According to the Irish Hotels Federation (IHF) (2010), the overall uncertainty meant visitors from Britain were down 14.2 per cent, tourists from other European countries down 36.5 per cent and arrivals from North America down 33 per cent. The IHF estimated the first week of ash cloud cost its members between €17m and €20m revenue and for every day the volcano shut Irish airports, experts estimated daily losses of approximately €10m. Given these external conditions, the service industry has to be more innovative and flexible in order to develop a sustainable competitive advantage (Jogaratnam & Ching–Yick Tse 2006). Although these external factors¹⁴ affect the demand for Irish tourism, they are not within Irish policy control. The industry needs to focus on internal factors.

2.4.2 Internal Factors

Internal (domestic) factors impede the Irish tourism industry. Internal factors are within Irish policy control and are primarily associated with the supply side of tourism (the delivery of products and at reasonable prices). Competitiveness and product innovation are two examples of internal factors affecting the supply side of Irish tourism. At a time when competitiveness of tourism enterprises has become the most dominant issue of the tourist sector (Peters et al. 2008), Irish competitiveness falls short to major competitors. For example, the Global Competitiveness' Reports (2012-2013) (2013-2014), ranked Ireland 28th and 29th in recent years, behind competitors such as Germany (5), UK (12), and France (15). The World Economic Forum's Travel and Tourism Competitiveness rankings

¹⁴ Appendix B presents other external events and trends between 2007 and 2010 that have affected world and European tourism.

show tourism competitiveness in Ireland is unstable. Ireland ranked 18th in 2008 and 2009, 21st in 2010 and 2011, but 19th in 2013. The 14 (supply side) pillars used to rank Ireland's fluctuating travel and tourism competitiveness (World Economic Forum 2013) include:

1. Policy rules and regulations
2. Environmental sustainability
3. Safety and security
4. Health and hygiene
5. Prioritization of travel and tourism
6. Air transport infrastructure
7. Ground transport infrastructure
8. Tourism infrastructure
9. ICT infrastructure
10. Price competitiveness in the travel and tourism industry
11. Human resources
12. Affinity for travel and tourism
13. Natural resources
14. Cultural resources

To ensure Irish competitiveness remains consistent. One supply area needed to improve Ireland's competitive is to expand product innovation and market knowledge. Samples of the characteristics of the Irish tourist market that are within Irish policy control are listed in Table 2.2.

Table 2.2 Percentage of Overseas Holidaymakers Opinion on Ireland's Advantages							
Advantages	2000	2005	2007	2008	2009	2010	North America 2010
Irish People	45	39	38	39	40	41	42
Scenery	33	28	32	30	27	24	23
Culture/History	15	15	17	15	15	18	22
English Speaking	15	14	11	12	10	11	17
Restful/Relaxing	10	10	5	5	7	6	2
Unspoilt Environment	11	9	6	5	7	7	3
Access	7	10	6	8	6	6	3
Drink/Pubs	10	9	9	5	7	7	5
Quiet Roads	6	5	3	3	2	2	1
Accommodation	7	4	3	2	2	2	-
<i>Source: Fáilte Ireland/Visitor Attitude Survey, various years</i>							

Table 2.2 lists the percentage of visitors who thought a particular advantage was important. It highlights Ireland's competitive advantages across several years as identified by visitors in the visitor attitude surveys. The Irish people and scenery remain in top position. However, the number of visitors identifying these features has declined since 2000. Ireland's perceived distinctiveness as a tourism destination has also declined. Just forty per cent of visitors in the 2010 Visitor Attitudes Survey (VAS) stated, "*Ireland is a unique destination that cannot be experienced elsewhere*". This perceived lack of uniqueness limits Ireland's ability to differentiate itself from competitors.

Compared to 2000 there is also a decline in the proportion of visitors citing Ireland as restful/relaxing, and unspoilt. Traditionally, these would have been Ireland's advantages over its competitors. Ireland as a cultural and historical location is the only advantage that has increased. This research shows that factor and cluster analysis are an important way for Irish tourism and travel firms to be more innovative and customer oriented, which is an important source of improved efficiency (Global Competitiveness Report 2011).

Table 2.3 highlights Ireland’s disadvantages across several years as indicated by visitors in the visitor attitude surveys.

Disadvantages	2005	2006	2007	2008	2009	2010	North America 2010
High cost of living	21	21	18	22	25	15	8
Weather	14	15	19	20	17	16	10
Bad roads	17	17	17	11	10	13	17
Food costs	7	5	2	6	7	6	3
Poor transport	5	5	4	6	6	6	5
Driving difficult	6	7	4	5	5	6	10
Exchange rates	-	5	2	3	5	1	1
Poor signposting	8	7	7	6	4	4	7
Food quality	3	3	2	3	3	3	3
Accommo. costs	3	3	2	3	3	2	-
Drink costs	1	1	1	2	3	2	-
Difficulty of access	3	4	3	3	2	4	3
Litter/hygiene	3	3	2	2	1	2	1
<i>Source: Fáilte Ireland/Visitor Attitude Survey, various years</i>							

Table 2.3 lists the percentage of visitors who thought a particular disadvantage was important when deciding to holiday in Ireland. The high cost of living and the weather are identified as Ireland’s most significant disadvantages. Five of the thirteen disadvantages (highlighted in red) relate to prices. Price competitiveness is therefore an issue for the Irish tourism industry. Price competitiveness is reflected, *inter alia*, in inflation rates, wage rates, and in hotel prices. For example, intense competition in Ireland and Northern Ireland hotels saw average rates fall by thirteen per cent (Ireland and Northern Ireland, Hotel Industry Survey 2010). Average daily room rates also fell from €97.16 in 2007 to €76.90 in 2009, while average daily room rates for economy hotel rooms fell from €58.84 and €46.53 (Ibid). Price competitiveness is consequential for the Irish (hotel) industry. Table 2.4 highlights the growth in inflation of the products and services most impacting tourism over the last decade.

Tourism related goods	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12
Food and Non-Alcoholic Beverages	3.1	6.5	3.5	1.4	-0.3	-0.7	1.4	2.8	6.5	-3.5	-4.5	1.1	0.5
Alcoholic Beverages, Tobacco	11.5	2.5	5.6	9.8	3.5	0.6	1.1	5.3	4.8	6.3	-2.6	-0.1	3.5
Recreation and Culture	3.7	4.9	6.3	4.1	1.2	0.0	1.3	1.5	1.3	-0.3	-1.8	-0.8	-1.2
Restaurants and Hotels	5.5	6.0	7.4	6.3	4.0	3.3	3.9	4.1	3.1	0.0	-2.6	-0.7	0.4

Source: CSO 2011

Table 2.4 shows prices within the sector fluctuated. In 2001, prices for food and non-alcoholic beverages rose 6.5 per cent, not rising that rapidly again until 2008. Prices for alcoholic beverages and tobacco peaked in 2003 (9.8 per cent). Recreation and culture prices rose 6.3 per cent in 2002 and restaurants and hotel prices rose to 7.4 per cent in 2002. Budgetary policies by governments do play a role in these prices. Table 2.4 highlights that more recent 2010 pricing in the sector has decreased. Using 2006 as a base year, Table 2.5 highlights the deflator rates from 2006 to 2012.

Tourism related goods	'06	'07	'08	'09	'10	'11	'12
Food and Non-Alcoholic Beverages	99.8	102.6	109.3	105.5	100.7	101.8	102.4
Alcoholic Beverages, Tobacco	96.4	101.5	106.4	113.1	110.2	110.1	114.0
Recreation and Culture	99.2	100.7	102.0	101.7	99.9	99.1	97.9
Restaurants and Hotels	98.9	103.0	106.2	106.2	103.4	102.7	103.2

Table 2.5 shows with the exception of alcoholic beverages and tobacco, prices since 2008 have fallen. Prices are moving in the right direction. Cheaper prices help Irish tourism's competitiveness.

Using factor and cluster analysis to segment one tourist market, specific tourist markets emerge. New and/or diverse products are required to cater for these markets. Competitiveness is ensured when the products available

meet the needs of the specific tourist segments. To achieve appropriate product innovation, an overview of some recent initiatives improving the tourism service is required.

2.5 Recent Irish Tourism Initiatives

A sample of the policy initiatives affecting (overseas) tourism are listed in Table 2.6.

Table 2.6 Sample of Recent Irish Tourism Initiatives	
Year	Developments
2003	-Tourism Policy Review Group (TPRG) established -New Horizons for Irish Tourism: An Agenda for Action-policy change report 2003-2012 published
2007	-Canada Air agreement -"A blueprint for Ireland's future 2007 – 2012" is published
2008	-Open Skies -Aer Lingus partnership with Jet Blue Airways
2009	- €10 euro Departure tax - Dublin-US direct services suspended/reduced
2010	-Opening of Terminal 2 at Dublin Airport -ITIC report: "A Changed World for Irish Tourism - facing up to the challenges of recovery"
2011	-"Tourism Opportunity- Driving Economic Renewal" report - Governments plan to establish Ireland as Europe's leading quality tourism destination by 2016
2012	-National Competitiveness Council (NCC) report published -Global Competitiveness Report 2010-2011 published
2013	-The Gathering

In 2003, the Tourism Policy Review Group (TPRG) was established. Its aim was to develop a plan for the future of Irish tourism. A *New Horizons for Irish Tourism: an Agenda for Action* was published from this report outlining the 2003-2012 tourism strategy. The TPRG's vision was for a "...dynamic, innovative, sustainable and highly-regarded sector, offering overseas and domestic visitors a positive and memorable experience beyond their expectations" (2003:7). The report set out several targets however, the document was similar to the NESCC report published in 1980 (see Section

2.1). According to Deegan (2006), this suggests a failure of public policy in the previous twenty-three years and an absence of clear guidelines for the development of tourism policy.

In May 2007, the Department of Transport Officials secured an agreement with Canada Air to provide service to Ireland from any point in Canada. This facilitated an increase in the North American visitor base. The same year the government published, “*A blueprint for Ireland’s future 2007 – 2012*”. Its aim was to design and create an environment allowing further growth and prosperity. The government indicated, they would, *inter alia*, invest money under the National Development Plan (€335 million and €149 million for training and human resources); place greater emphasis on Ireland’s natural and built-in heritage; develop rural-based package-style holidays; develop cultural events; promote Ireland as a healthy activity holiday destination; enhance access, and promote and support the development of new tourism products. The blueprint also implemented (in March 2008) ‘Open Skies’ with the US. Open skies¹⁵ meant any E.U. or U.S carrier could operate between any point in the U.S. and any point in Ireland. The aim was to increase visitor numbers from the US. Despite these initiatives, a methodology to implement the accurate development of new products was lacking. Segmentation analysis as set out in this work was required.

In 2008, Aer Lingus confirmed a partnership with Jet Blue Airways enabling US customers to book low fare reservations to Ireland from more than 40 US destinations. This opened up a host of major metropolitan areas¹⁶ in the US to an-easy-to-use booking process. In 2009 however, Aer Lingus announced direct services between Dublin and US were suspended or reduced, at a time when the government introduced a €10 euro departure

¹⁵ Aer Lingus were the first airline to exploit the Open Skies with new non-stop services from San Francisco, Washington DC and Orlando (this was in addition to their existing non-stop services). With the addition of Continental’s service from Newark, US Air from Philadelphia and Delta from Atlanta, Ireland now had non-stop services from 10 US gateways.

¹⁶ These “new” cities include Pittsburgh, Buffalo, Rochester, Syracuse, Richmond, Charlotte, Raleigh-Durham, New Orleans, Houston, Austin, Tucson, Phoenix, Denver, San Diego, Seattle and many more.

tax. These actions did little to increase Ireland's competitiveness internationally. Supply side policies directed towards product innovations were required.

In 2010, Terminal 2 at Dublin Airport was opened. In this year the ITIC also published a report¹⁷ entitled, "*A Changed World for Irish Tourism - facing up to the challenges of recovery*" and in February 2011, a coalition of private tourism interests¹⁸ prepared a report; "*Tourism Opportunity- Driving Economic Renewal*" outlining measures needed to revive the industry. These reports recommended a strategy of greater focus on Ireland's top four¹⁹ markets, including North America. Key proposals to be achieved by 2015 included:

- Capitalise on quality and value as Ireland regains competitiveness;
- Focus on winning a larger share of top overseas markets at a time of little growth in domestic demand;
- Get the marketing right by strengthening research and development appropriate to evolving consumer needs;
- Sell to Ireland's strengths;
- Establish an industry-led tourism recovery task force;
- Re-engineer tourism agency structures;
- Introduce a business loan guarantee scheme;
- Establish a high level inter-departmental working group.

Many of the measures were highlighted again in May 2011 under the new coalition²⁰ government initiatives to drive tourism renewal and establish Ireland as Europe's leading quality tourism destination by 2016. Some of the government initiatives included:

- Re-launch Ireland as a tourism destination;
- Position and maintain tourism as a national priority;

¹⁷ This report was undertaken by Tourism and Transport Consult International Ltd (TTC)

¹⁸ ITIC and the Irish Hotels Federation (IHF)

¹⁹ The other three markets are Britain, Germany and France.

²⁰ Coalition between Fine Gael and Labour

- Introduce a simpler visa²¹ process for visitors entering the UK and wishing to visit Ireland;
- Ensure better value offers available to the consumer at home and abroad (In July 2011, the government reduced VAT to 9 per cent for tourist industry services);
- Prioritise and provide barrier free access (remove the air travel tax);
- Establish Ireland as a quality, friendly green destination that is rich in culture;
- Promote ‘product clusters’ and ‘itineraries’²² presenting the tourist with a menu of things to see and do when visiting particular parts of the country;
- Enhance Ireland’s competitiveness as a tourist destination;
- Under the Sustainable Tourism Awareness Programme, generate pride in Irish tourism putting greater focus on ‘attitudinal training’ to ensure our visitors experience the real warmth of the Irish welcome.

The government’s initiative also included focusing on winning a larger share of top overseas markets whilst ensuring marketing to evolving consumer needs was accurate and appropriate. Recent aims of the ITIC and the government to target the supply side of tourism and their objectives correspond to the travel and tourism competitiveness pillars (Section 2.4.2). The methodology used in this research work ensures the initiatives such as “getting the marketing right by strengthening research” and promoting ‘product clusters’ and ‘itineraries’ can be achieved. Using factor and cluster analysis to segment a market into clusters, customers can be more accurately targeted. This is a necessary condition for an improvement in Irish tourism’s competitiveness ranking.

²¹ This has been a significant barrier to developing business from some of the new emerging markets. This visa means tourists visiting the UK can now visit Ireland for 3 days without the cost or hassle of applying for a separate visa.

²² Examples could include a Viking and Norman Heritage Cluster in the south east and a Christian Heritage Trail, Garden Trails, Castle Trails, Genealogy Trails, and Cultural tourism in the Dingle Peninsula.

2.7 Coach Tourism –Contextualised

Section 3.4 outlines two reports, published in 2008 and 2012 relating to the coach tourism sector in Ireland. The 2008 report however published by the Irish Tourist Industry Confederation (ITIC)²³ (2008) offers an extensive discussion of driver recruitment and training, which is not relevant to this thesis. Conversely, the 2012 report published by Fáilte Ireland outlines, albeit not in great detail, the characteristics, structure, operations, markets, and products of the coach industry in Ireland.

Fáilte Ireland (2012) report there were, as of 2011, 66 companies providing coach in Ireland. Sixty-four were members of the Coach Tourism and Transport Council (CTTC), the primary trade association, which operates a quality control agreement with Fáilte Ireland. This was an increase from 53 members in 2007 (ITIC 2008). According to the CTTC website (www.cttc.ie), the organisation currently (May 2014) has 62 members. Of these tour operators, only three concentrate on marketing to Canada, and only 15 concentrate on marketing to the US (NITB 2011)²⁴. (The other tour operators focus on marketing to tourists in other countries outside the scope of this thesis.) At the time of the writing of this thesis, none of these 18 tour operators marketing to North America emphasised flexible and diverse, hop-on hop-off tours, which is the emphasis of the policy component of this thesis, elaborated on in Sections 9.4 and 9.5. Tenon Tours has, however, just begun offering services of this sort. It is also worth mentioning that tour operator Paddywagon Tours, which is not a member of CTTC, does cater for flexible travel decisions, throughout Ireland, at budget prices. Nevertheless Paddywagon Tours caters mostly to backpacker tourists staying in hostels. Only 5 per cent of coach tourists use hostels, so Paddywagon (which markets heavily in Ireland and the UK, rather than North America) does not fit into the coach tourists covered by this thesis.

²³ This ITIC published the report with the Coach Tourism and Transport Council (CTTC) and the Irish Tour Operators Association (ITOA). The report was launched by Dr Martin Mansergh T.D., Minister of State for Arts, Sport and Tourism.

²⁴ See Appendix C for a breakdown of these tour operators.

There are 620 coaches in the Fáilte Ireland coach tourism approvals scheme. About 70 per cent are standard coaches, holding 50-53 passengers. The rest are either midi coaches (usually holding a maximum of 25 to 35 passengers) or mini coaches (usually holding a maximum of 8 to 20 passengers). The business employs about 2000 people, 75 per cent full time, and 77 per cent of the employees are drivers (Fáilte Ireland 2012).²⁵ Furthermore, Fáilte Ireland (2012) estimates the daily total costs of owning and operating a coach are nearly €500. In descending order of cost share, these are driver's wages (25 per cent), coach depreciation (25 per cent), fuel (24 per cent), maintenance (7 per cent), administrative costs (6 per cent), interest charges (5 per cent), and insurance (2 per cent), with unspecified costs accounting for the remaining 6 per cent.

Results from this work (presented in chapter 9) will show this sector is a segment worthy of further research.

2.6 Conclusion

This chapter outlined the importance of tourism to the Irish economy. The chapter provided a background on the development of the Irish tourism industry and the reasons for its phenomenal growth since the mid-1980s and recent declines. The chapter highlighted that focus within the Irish tourism industry must be on competitiveness. This competitiveness involves price stability and product innovation. To ensure Ireland's competitiveness, the chapter stressed the importance of maximising what is within domestic control, i.e. the supply side of Irish products in Ireland. To do this, the chapter justified why the specific market under investigation is the North American coach tourist. Analysing just one aspect of the market, the North American coach tourist in Ireland, Irish tourism providers can influence consumer decision-making, understanding why, and who exactly travel. Commitment and co-operation is required from all bodies to assess the consumer demands and preferences of their tourists. However, much of the development and policies implemented to date have not assessed consumer

demand or preferences. Using results from this work, accurate policy direction, and implementation into the future will result.

CHAPTER THREE: MARKET ANALYSIS - SEGMENTATION

3. Introduction

A brief introduction to the concepts of factor analysis, cluster analysis and segmentation were described in chapter one. The purpose of this chapter is to fulfil task one in Chapter one “Identify the usefulness of segmentation analysis”. This chapter reviews published literature in the area, detailing various types of segmentation models. The chapter highlights the usefulness and popularity of segmentation. Segmentation literatures within the overseas and (motor) coach tourism industry are assessed. A gap within (motor) coach tourism literature is revealed. The chapter also outlines how under-used segmentation is within the Irish market highlighting a gap in Irish tourism literature. These gaps in literature justify the contribution of this research. This chapter is pertinent to this research as findings from the literature review validate the placement of questions used in the development of the study’s questionnaire.

The chapter proceeds as follows: Section 3.1 defines the concept, usefulness, and process of segmentation. Section 3.2 outlines the approaches to segmentation. Section 3.3 describes the different types of segmentation in the context of literature. Section 3.4 details the application of segmentation within Irish tourism. Section 3.5 discusses how this research work’s questionnaire was developed. Finally, Section 3.6 concludes the chapter.

3.1 Segmentation

Segmentation was first proposed in the mid-1950s by Wendell.R.Smith, an American professor of marketing. Segmentation divides a market into smaller groups of buyers with distinct needs, characteristics, or behaviours who might require separate products or marketing mixes (Lamb, 2003).

Segmentation enables marketers to break large heterogeneous markets into smaller homogeneous segments (Dolnicar 2007; Goldsmith and Litvin 1999; Kotler 1980; Kotler et al. 2003; Swarbrooke and Horner 1999; Smith 1956). For example, a typical consumer market could be segmented into the conservative consumer, the traditional consumer, the price conscious consumer, and an impulsive consumer. Segments are therefore based on consumers' buying power and behaviour. Segmentation can develop marketing strategies providing a better understanding of customers' characteristics (Park et al. 2002; Bowen, 1998; Inbakaran and Jackson 2003; Laesser et al. 2006; Upchurch et al. 2006).

Segmentation allows businesses and industries to structure their management thinking (Aguas, Costa, and Rita 2000). The method enables organisations to prioritise and focus their efforts on customer groups that constitute the greatest potential (WTO 2007). According to Smith (1956), segmentation represents a rational and precise adjustment of product and marketing efforts. Specific segments can be reached more efficiently and effectively with products and services that match the unique segment needs (Dolnicar 2007; Kotler et al. 2003). By allowing companies develop the right products and marketing mixes for each segment (Dolnicar 2002), it can, for example, increase tourist satisfaction and repeat visits as promoters can show all that the destination has to offer (Dolnicar 2007; Aguas, Costa and Rita 2000). Segmentation can therefore provide a fuller understanding of a particular market, informing tourism marketers of the characteristics and profiles of current and future market segments.

Competition compels tourism providers to know their tourist (Hanlan et al. 2005). To ensure profitability, segmented markets and customised holidays are consequently becoming more and more important (Poon 1989). Segmentation frames marketers thinking allowing marketers to identify distinct groups whose behaviours significantly differ from others (Goyat 2011). To remain competitive, promoters of a destination need to acknowledge that every tourist is unique (Dolnicar 2007). However, the diversity of tourism markets does not mean destinations should target all

tourists (Chandra and Menezes 2001). Rather, tourism providers should identify tourists with similar needs, wants, and profiles, and use segmentation to facilitate market differentiation, product innovation, specialisation, and the emergence of niche markets.

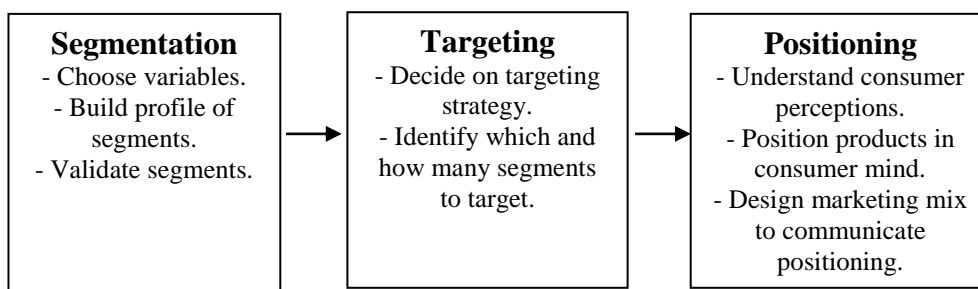
Segmentation can therefore create competitive advantages. It highlights competitive advantages on product design, placement, pricing, and/or promotion strategies for consumers in specific markets (Kolb 2006; Kotler 1980; Kotler et al. 2003; Murphy and Murphy 2004; Swarbrooke and Horner 1999) such as tourism. Improving the ability to identify and exploit new market opportunities for commercial benefit (Hoek et al. 1996), segmentation applies resources to attract and retain only the most profitable segments (Mykletun et al. 2001). Given tourists today have access to a broader range of goods and services, and information (Lew 2008); marketing efforts must be allocated to the most desired segments whereby the speciality of the tourism economy is expanded (Loker and Perdue 1992).

The Long Tail model devised by Anderson (2004, 2008) emphasises that advances in communication technology allows the targeting of market niche products at zero marginal cost. It facilitates the rapid growth in special interest travel, destinations, and experiences. The model enables companies to compete in diverse competitive marketplaces. It presents tourism in the context of globalisation, advances in communication technology, and social networking. The Long Tail model ensures profitability (Anderson 2008) as it reduces deadweight by ensuring the amount of resources spent on promotions reach the targeted people (WTO 2007). The expected outcome from market segmentation is therefore one that maximises financial resources ensuring unnecessary finances are not placed in unprofitable markets (Perdue 1996; Kotler et al. 2003). Economically, segmentation is therefore an efficient and effective tool, creating competitive advantages and a better understanding of a sample market. For these reasons, the method is used in this research to segment the North American coach tourists in Ireland.

3.1.1 Segmentation Process

There is a large amount of literature focusing on the criteria used for segmenting a market. However there is far less attention detailing the requirements for what Kotler (1997) terms effective segmentation (Goyat 2011). Segmentation, targeting, positioning (STP) derived by Kotler (1994) is deemed the essence of strategic marketing. Figure 3.1 outlines these processes.

Figure 3.1 STP of Market Segmentation



(Source: Adapted from Dibb et al. (1997:205))

The above processes are vital for successful and purposeful segmentation. Once segments are identified and profiles have been made (the subject of this research), effective targeting strategies for each group can be decided. Targeting is achieved when the product is positioned in a way that demonstrates the understandings of groups. Appropriate and effective communication methods are carried out until the product is in the mind-set of the consumer. Highlighting the usefulness of segmentation, Kotler (1997) and Kotler et al. (2003) put forward five criteria for the method's success: *measurable, substantial, different, accessible, and actionable*.

Measurable indicates the size of the segment and its purchasing power must be quantifiable. This is important as it assesses the market's potential (WTO 2007). A *substantial* segment must have sufficient potential to warrant a marketing strategy. A segment must be discrete and *different* so it can be conceptually distinguished whereby members respond differently to different market-mix elements (in terms of product, price, promotion, and placement). Segments must also differ in their behavioural patterns. This

includes differences in choices and attitudes, and/or susceptibility to different marketing mix combinations (Hooley and Sanders 1993). In addition, the markets must be sufficiently different from one another to ensure the distribution of resources is worthwhile (Kotler et al., 2003). Kotler (1997) also suggests a segment must be *accessible* so it can be reached and targeted effectively. Segments therefore need to be appraised to gauge how easy or difficult it is to access the segment through promotional and marketing activities (WTO 2007). Finally, the segment must be *actionable* so the marketing design attached to the segment is an effective strategy attracting and serving the segment (Kotler et al., 2003).

Lemon et al. (2006: 58) suggests “the best segmentation model is the one that, (a) provides insight to managers regarding current and potential customers, and (b) enables managers to effectively reach the market, and gain appropriate customer response”. Chandra and Menezes (2001) stipulate that segments should be useful, strategic, and achieve cost effective marketing. The criteria used to segment a market can vary, however, depending on the needs and situation of the organisation or industry (McKercher et al. 2003). Consequently, several authors (including Beane and Ennis 1987; Dolnicar 2007; Kotler 1980; Kotler and Armstrong 2008; Kotler et al. 2003) claim there is no perfect way to segment a market. Two basic ways of approaching segmentation however are, *a priori* and *posteriori* (the latter also known as *post-hoc* or *data driven*) (Dolnicar 2004; Kara and Kaynak 1997; Wind 1978). Successful tourism segmentation focuses resources on potential tourists who are the most likely to be persuaded to visit the destination and who fit the profile of the type of tourist the destination wants to attract (WTO 2007). This research uses a combination of the *a priori* and *posteriori* approaches.

3.2 Approaches to Segmentation

In *a priori* segmentation, the criterion variable for dividing the market is known but in *posteriori* segmentation, no such prior knowledge exists (Calantone and Mazanec 1991). Within tourism, *a priori* segmentation focuses on tourist behaviour i.e. what they do, and *posteriori* segmentation

focuses on who the tourist is (WTO 2007). *A priori* segmentation selects the basis for defining the segment at the outset. It requires the researcher to choose variables of interest and then classifies buyers according to that interest (Wind 1978). For example, in an *a priori* segmentation, all segment members come from a similar geographic region or income range or tour type. Consumers are partitioned into groups by the attributes selected based on the researchers' prior knowledge of the segments (Hsu and Lee 2002). This approach is frequently used as a segmentation method (e.g. Baloglu and McCleary 1999; Goldsmith and Litvin 1999; Kashyap and Bojanic 2000). It is popular as it collects easily obtainable information on geographic and demographic characteristics (Pike 2004). However, the approach does not mean all segment members respond in the same way (Hoek, Gendall and Esslemont 1996). For example, consumers with similar demographic characteristics may respond to a change in price, but not to a promotional theme. The *a priori* approach is therefore based on pre-judgement rather than an assessment of the most important segments (WTO 2007).

A priori segmentation can however classify tourists based on a known characteristic such as accommodation type chosen or country of origin (Chandra and Menezes 2001). Once segments have been specified *a priori*, the analysis centres, *inter alia*, on profiling the segmented groups in terms of socio-demographics or daily expenditures. For example, a special visitor survey carried out on tourists on a short trip can use *a priori* segmentation to identify tourists in terms of trip characteristics (travel type, package, party size etc) or demographics (age, gender, nationality etc). Specific marketing packages can then be formed to influence length of stay. Table 3.1 details a sample of *a priori* studies per segmentation variable.

Table 3.1 Summary of <i>A-priori</i> segmentation studies	
Variable	Researcher (year)
Demographic and socioeconomic variables	Smith & MacKay (2001); Cai et al. (1995); Mazanec (2000); Anderson & Langmeyer (1982); Andereck & Caldwell (1994); Carmichael (2004); Court & Lupton (1997); Dodd and Bigotte (1997)
Geographic/ Country of origin	Moscardo et al. (2001); Field (1999); Juaneda and Sastre (1999); Mudambi and Baum (1997); Reid & Reid (1997); Bojanic and Warnick (1995)
Behaviour/ Travel arrangement / Trip types/ Travel expenditures/ Internet use	Spotts and Mahoney (1993); Pizam & Reichel (1996); Mehmetoglu (2007); Mok & Iverson (2000); Bonn et al. (2005); Kashyap & Bojanic (2000); Morrison et al. (1996); Long & Perdue (1990); Yoon and Shafer (1997); Morrison et al. (1994); Hsu and Lee (2002)
<i>(Source: Various Literatures)</i>	

Table 3.1 shows the popularity of the *a priori* approach. A drawback to the approach, however, is that market structures are restricted to only a selection of tourists, and not the entire population. Dolnicar (2004) indicates this limits the segmentation reach and risks the possibility that new potential market segments may not be detected. As this research analyses, a sample population i.e. the North American coach tourist, the entire North American tourist market is not analysed. The *a priori* approach can be used.

The *posteriori* or *post-hoc* or *baseline* approach groups tourists based on their similarities (Chandra and Menezes 2001; Dolnicar 2004). *Posteriori* segmentation is not determined in advance, so it avoids premature market selection (WTO 2007). In contrast to *a priori*, the *posteriori* the approach emerges from the results of research surveys (WTO 2007). In *a priori* segmentation, the researcher knows and specifies the number and identity of segments. However, in the *posteriori* approach the segments are produced analytically. In addition, in the *posteriori* method researchers can choose a range of inter-related variables to segment people into groups ensuring within-group similarity is high, and between group similarity is low (Wind 1978). In other words, people within a segment are very similar and when compared to people from other segments, they are very different.

A disadvantage associated with the *posteriori* approach occurs when segments with similar attitudes or habits may not be internally consistent.

For example, group members may have differing characteristics (such as age). Media buying decisions can therefore be difficult to target (Hoek et al. 1996). The *posteriori* approach, can however be used for many variables including psychological, demographic, lifestyle, or any other variable of interest (Chandra and Menezes 2001). Because the variables used to segment tourists in this research include travel motivations, holiday constraints, activities undertaken, life focus, among others, the *posteriori* approach is applicable. Examples of *posteriori* segmentation studies are presented in Table 3.2.

Table 3.2 Summary of <i>Posteriori</i> segmentation studies	
Segmentation Variable	Researcher (year)
Behaviour/ Activities/Benefits sought /Recreational benefits	Formica and Uysal (1998); Jeffery and Xie (1995); Kastenzholz et al. (1999); Shoemaker (1994); McCool and Reilly (1993); Loker & Perdue(1992); Palacio and McCool (1997);Lang and O’Leary (1997);Morrison et al.,(1996); Hsieh et al. (1992); Spotts and Mahoney (1993); Molera & Albaladejo(2007); Frochot (2005); Jang et al. (2002); Sirakaya et al. (2003); Moscardo et al. (2000); Tsiotsou & Vasioti (2006); McKercher et al.,(2002); Sung et al. (2000); Hsu & Lee (2002); Dolnicar (2002,2004);
Psychographic/ Lifestyle variables/ Motivation/ Destination choice preferences	Cleaver et al. (1999) Loker-Murphy (1996); Wedel & Kamakura (1998); Pyo (1996); Oppermann (1996) Lieux et al.,(1994); Cha et al.,(1995); Smith (1956) Chen and Hsu (1999); Leones et al. (1998); Stermerding et al. (1996); Keng and Cheng (1999);Blamey and Braithwaite (1997);Silverberg, Backman and Backman (1999); Madrigal and Kahle (1994); Bowen (1998); Cha et al. (1995); Kastenzholz et al. (1999); Hsieh and O’Leary (1993); Prentice et al. (1998); Park et al. (2002); Kotler et al. (2003); Dolnicar &Leisch (2003); Frochot (2005);Tiefenbacher et al.,(2000); Mazanec (2000, 1992), Bieger and Laesser (2002); Shoemaker (2000); Inbakaran and Jackson (2005;2003); Laesser et al. (2006); Upchurch et al. (2006); Dolnicar (2007); Park & Yoon (2009); Nimrod and Rotem (2010)
<i>(Source: Various Literatures)</i>	

Table 3.2 highlights the popularity of the *posteriori* segmentation approach. However, the approach is more complex than the *a priori* approach as it identifies groups within a population that exhibit similar psychographic or behavioural tendencies (Pike 2004; Sirakaya et al. 2003). Hsu and Lee

(2002) argue that psychographic segmentations such as motivations and values provide marketers with more insightful information about their target markets in comparison to demographic or geographic data. The outcome in the *posteriori* approach is therefore deemed more comprehensive (Formica and Uysal 1998; Mazanec 1992; Smith 1956) than the *a priori* approach.

In tourism, the *a priori* and *posteriori* approaches are not in conflict, so they are often used in combination (WTO 2007). Using both *a priori* and *posteriori* approaches the starting point is to sub-group the population *a priori* (i.e. the segment is defined from the outset) and *posteriori* segmentation is then applied using data from the *a priori* segments. Some national tourism organisations apply the opposite, whereby *posteriori* analysis identifies groups by nationality, purpose of trip etc, and *a priori* is then used to analyse key groupings (WTO 2007). Irrespective of the order, the combined form of segmentation has been frequently identified within tourism literature (e.g. Dodd and Bigotte 1997; Hsu and Lee 2002; Kastenholz, et al. 1999). For example, Dolnicar (2004) concluded 36 per cent of tourism segmentation studies used a combination of *a priori* and *posteriori* approaches. To maximise the benefits from both approaches and identify sub-groups of marketable interest (Dolnicar 2004) this research combines both the *a priori* and *posteriori* segmentation methods to analyse the North American coach tour industry.

3.3 Tourism and Segmentation Types

Given the array of literature listed in Tables 3.1 and 3.2, segmentation analysis is not new to tourism. Studies within tourism have, however, used different descriptors and discriminating variables to segment a market (Bieger and Laesser 2002). A description of these differing segmentation types are given in the following sub-sections.

3.3.1 Types of Segmentation

Four segmentation bases have emerged as the most popular in segmentation studies (Kotler, et al. 2002). Hsu and Lee (2002) reviewed thirty-three

travel segmentation studies in the 1990s and identified four bases divided the market into segments. In 2008, Tkaczynski et al., reviewed one hundred and nineteen studies, and again confirmed researchers used four segmentation bases in different combinations. The segmentation bases in question are those described by Kotler (1980) and Haley (1968) namely; *geographic* (country of origin, city of origin etc), *demographic* (age, gender income etc), *behavioural* (loyalty status, benefits sought, activities etc) and *psychographic* (social class, lifestyle, motivations, personality etc).

3.3.1.1 Demographic segmentation

Demographic segmentation is one of the most popular ways of dividing consumers into segments (Gunter & Furnham 1992, Kotler & Armstrong 2001, Weinstein 1994). Demographic segmentation categorises consumers by variables such as age, gender, income, education, religion, and life-cycle stage (Gunter & Furnham 1992; Kotler & Armstrong 2001; Peattie 1995; Summers et al. 2005). Demographic factors are therefore useful for classifying tourists into key groups (Tkaczynski et al. 2008). For several years, demographics have been a popular method of segmentation across many industries (for example Blattberg et al. 1976; Bowen 1998; Gartner 1996; Kelly and Nankervis 2001; Kotler et al. 2003; Chin Feng Lin 2002) as consumers' needs and wants usually vary closely in line with demographic variables (Kotler et al. 2003).

There are numerous benefits associated with demographic segmentation. Demographic data are widely available, inexpensive and straightforward (Choi et al. 2011; Griffith & Pol 1994; Moriarty & Reibstein 1986). Demographics, unlike other segmentation variables are also generally accessible, are an identifiable segment, are directly observable, and are easily quantifiable (Bowen 1998; Tkaczynski et al. 2008; Brayley 1993; Gartner 1996; Kotler et al. 2003; Scott and Parfitt 2004). Demographic segmentation is also useful because it is efficient in guiding managerial decisions, such as the allocation of budgets (Tkaczynski et al. 2008) and is

effective in predicting tourist behaviour (Cha, et al. 1995; Morrison et al. 1996).

Demographic segmentation does have limitations, however. For example, relying only on demographic factors has been criticised for being an untrustworthy segmentation strategy (Goyat 2011). Although clearly defined segments may be identified using demographic variables, entire markets cannot usually be segmented by demographic segmentation alone (Beane and Ennis 1987). Demographic segmentation has also been criticised in the past for its failure to predict actual consumer behaviour. Brayley (1993) indicates demographic segmentation lacks richness in the data, because the method does not address variables such as values, motivations, activities, interests or lifestyle variations of tourists. Yankelovich & Meer (2006: 124) also criticise the method as, “tastes and purchasing patterns are no longer neatly aligned with age and income”. Researchers such as Andereck and Caldwell (1994), Lehto et al. (2002), and Prentice et al. (1998) therefore question the reliability of demographic segmentation. Despite these limitations, demographic segmentation remains a standard tool in market segmentation as its benefits can conjure up target markets and reach them efficiently (Gartner 1996).

Moschis (1993 1997, 2000, 2003, and 2004) used demographics as a segmentation criterion when he segmented the older market²⁶ using a model called gerontographics. In this model, Moschis, acknowledges, “there are differences in the aging process as well in the types of ageing dimensions that occur in later life” (1993:45). Moschis (1993, 1997, 2000, 2003, and 2004) identified four distinct segments within the older United States market: the Healthy Indulgers, the Ailing Outgoers, the Frail Recluses, and the Healthy Hermits. Although the work of Cha et al. (1995), and Morrison et al. (1996) indicate age is effective in predicting tourist behaviour, Moschis (1993, 1997, and 2000) refutes this claim. Moschis (1993, 1997, 2000) found chronological age does not define the consumer behaviour of

²⁶ Moschis (1993) termed the older market as those aged over 55 years.

older people, but rather older people experiencing similar life trials, display similar consumer behaviours. In 2008, Tkaczynski et al. confirmed the work of Moschis (2003) indicating demographics play an important role in managerial decision-making. Dividing the older US market into four distinct segments, Moschis' (2003, 2004) subsequent work suggests the older US population differs through age as well as possessing different character types with diverse outlooks in life. Numerous other researchers including Horneman et al. (2002); Hsu and Lee (2002); Lasser et al. (2006); Lee et al. (2006); Lee and Sparks (2007) also found factors such as age, gender, and education, can determine tourism behaviours and motivations. Demographics are therefore an effective and popular segmentation base. Using demographic segmentation, this research examines whether demographic variables such as age and gender are distinguishing traits between segments²⁷.

3.3.1.2. Geographic segmentation

Geographic segmentation identifies where tourists come from. This segmentation type does not however assess tourists' needs, behaviours, and/or wants. Rather, geographic segmentation is useful in consumer theory (Hawkins, Best and Coney 1983) as it segments tourists based on their place of residence (Gartner 1996; Haley 1968; Kelly and Nankervis 2001). Place of residence may include nations, regions, states, municipalities, cities, or neighbourhoods (Kotler et al. 2003). Geographic segmentation is straightforward in terms of statistical analysis (Dolnicar and Leisch 2003; Kolb 2006; Moscardo et al. 2001) as once tourists are segmented (based on place of origin) simple frequency and means computation are sufficient to describe the target market (Dolnicar and Leisch 2003). However, Swarbrooke and Horner (1999), refer to geographic and demographic segmentation bases, as 'yesterday's techniques' because they rely on quantitative and factual data to explain tourist behaviour. In addition, researchers such as Cha et al. (1995), Johns and Gyimothy (2002), Letho et al. (2002), and Morrison et al. (1996) criticise geographic and demographic

²⁷ See Chapter 9, Table 9.2 and Table 9.3.

segmentation bases because the methods do not consider the wide variation in tourists' needs and wants.

Geographic segmentation is popular however as it is easy to use when developing media promotional campaigns (e.g. Bojanic and Warnick 1995; Dodd and Bigotte 1997; Mazanec 1992; Obenour et al. 2005). For example, when advertising and promotion activities are limited to the borders of a nation, target markets can be easily monitored with minimal risk of change over time (Dolnicar and Leisch 2003). Geographic segmentation is also useful because consumption patterns are affected by where people live (Kahle 1986), i.e. people living in similar areas share similar motivations and behavioural characteristics. Kotler (1983), for example, found General Foods in the United States flavours Maxwell House coffee differently based on region. Results indicated people in the western areas of the US preferred stronger coffee. According to Moscardo et al. (2001), geographic variables such as usual residence also provide important descriptors to use in the development of marketing strategies. Kolb (2006) postulates because a city (destination) is a product a consumer chooses to travel to, it makes sense for geographic segmentation to be used in tourism. Similarly, Choi et al. (2011), concluded knowledge of location could reflect income levels allowing marketers to make certain assumptions about individuals' spending patterns. Consequently, geographics are a useful segmentation base.

To ensure accurate targeting of potential markets are produced, and in this case, to ensure a comprehensive profile of the sample market based on their place of residence i.e. North America is achieved; geographic segmentation is used in this research.

3.3.1.3. Behavioural segmentation

Behavioural segmentation divides customers by the way they respond to, or use a product or service. Behavioural segmentation groups tourists' responses to variables that assess trip type, internet usage, travel arrangement, and travel expenditures (Hsu and Lee 2002). The most

commonly used divisions in behavioural segmentation are frequent users (daily use), less frequent users (at least once a week), occasional users (once a month), and non-users (Choi et al. 2011). Consequently, behavioural segmentation is different to other forms of segmentation as it is more concerned with consumer responses rather than characteristics (Kotler et al. 2003). However, behavioural segmentation can be used to predict tourist behaviour as the most effective predictor of tourist behaviour is behaviour itself (Johns and Gyimothy 2002).

Behavioural segmentation can be re-labelled as benefit or needs-based segmentation (e.g. Frochot 2005; Furr and Bonn 2006; Jang et al. 2002; Lehto et al. 2002; Loker and Perdue 1992; Naylor and Kleiser 2002) and usage segmentation (Goldsmith and Litvin 1999; Goldsmith et al. 1994; Summers et al. 2005, Kotler et al. 2003). Several tourism academics have used benefit segmentation (e.g. Haley 1968, Bowen 1998; Frochot 2005; Furr and Bonn 2006; Jang et al. 2002; Young 1978; Lehto et al. 2002; Loker and Perdue 1992; Naylor and Kleiser 2002) as it focuses tourist's behavioural responses to a product (Kotler et al. 2003; Kotler and Armstrong, 2008; Summers et al. 2005). For example, usage segmentation classifies tourists based on whether they are light, medium, or heavy users of a product (e.g. Goldsmith and Litvin 1999; Summers et al. 2005; Goldsmith, et al. 1994). Craft (2004a), suggests customers are willing to pay a premium for a product that meets their needs more specifically than does a competing product. Similarly, Wells et al. (2010) concluded benefits sought are a powerful basis of brand choice and price selection (whereby demographic attributes are not very effective). Irrespective of labelling, behavioural segmentation identifies segments on information relevant to the service experience (Dolnicar 2007; Dolnicar and Leisch 2003). Behavioural segmentation in tourism can therefore create segments based on destination choices such as accommodation type and usage (Dolnicar 2007).

Behavioural segmentation does have limitations however. In the tourism sector, identifying or constructing behavioural segments is difficult due to the uniqueness of tourists. Behavioural segmentation can identify how and

what people buy, but not *who* they are (Murphy and Murphy 2004). In addition, behavioural segmentations cannot predict future intentions as behaviours can change over time (Murphy and Murphy 2004) (such as personal conditions, needs, circumstances) (Dolnicar 2007). A tourist for example, may be satisfied with their holiday experience but may not return because of time or monetary constraints (Kotler et al. 2003), or because they seek variety (Bigne and Andreu 2004; Fuller and Matzler 2008; Keng and Cheng 1999). Murphy and Murphy (2004), however, suggest the limitations of behavioural segmentation are minimised when demographics and psychographics are combined.

Literature detailing behavioural segmentation is primarily based on usage, and benefits sought i.e. how and what tourists buy. The approach is useful in this research as behavioural segmentation can be used to analyse how the North American coach tourists behave in Ireland, e.g., who they travel with, frequency of travel, type of trip taken, and travel expenditures. Behavioural segmentation can help Irish tourism providers predict the coach tourist's behaviour so that appropriate targeting of products can be achieved, and the potential of repeat visits is increased. Behavioural segmentation is therefore a useful segmentation base to improve Irish tourism's competitiveness.

3.3.1.4. Psychographic segmentation

The final segmentation approach is psychographic segmentation. Psychographic segmentation assesses potential customers' psychological characteristics. Psychographics were developed by researchers in the late 1960's in order to provide a better picture of what consumers think and believe (Goyat 2011). It captures interests, motivations, perceptions, needs, opinions, lifestyles, attitudes, and values (Choi et al. 2011; Gartner 1996; Gladwell 1990; Mill and Morrison 2002; Kotler et al. 2003; Gunter & Furnham 1992). Psychographics are recognized as meaningful and relevant (Shih 1986) because the method provides information beyond demographic characteristics (Abbey 1979; Kayle 1986). The method increases precision and can better differentiate between consumers (Ryel and Grasse 1991;

Mayo 1975). Psychographic segmentation is useful and valuable within tourism segmentation as it contributes to understanding tourists' thoughts and feelings (Mitchell 1994; 1983; Reisinger and Mavondo 2004). The approach can create a context for understanding motivations because it recognises and attempts to satisfy tourists' needs (Brayley 1993; Murphy and Murphy 2004). Psychographic segmentation provides relevant information to understand tourists as consumers (Lee and Sparks 2007; and Metzler et al. 2004). It informs the marketer of what appeals to the market, satisfying consumer needs and wants (Brayley 1993), and supports tourism decisions, such as positioning, advertising, promoting and packaging a destination (Lehto, O'Leary and Morrison 2002). Psychographic segmentation can therefore design effective marketing programmes to predict tourists' decision-making processes (Lee and Sparks 2007).

There are, however, limitations associated with psychographic segmentation. The method can be difficult to implement, because it involves correlating intangible personality and lifestyle variables (Swarbrooke and Horner 1999). Accessing the market can also be difficult to identify (Brayley 1993; Kolb 2006). For example, if a tourist's place of origin is unknown, targeting the appropriate tourist with the same needs and motivations is difficult. This is intensified when resources (national or regional tourism authorities) for destinations are limited (Dore and Crouch 2003; Pike 2004). Psychographic segmentation is therefore deemed ineffectual on its own, as segments may be unstable (Brayley 1993). In addition, whilst demographic characteristics such as gender or age do not change (or if they do, they change very slowly), psychographics such as motivations and interests can change dramatically per situation, and/or within a short period of time (McIntosh and Goeldner 1986). Consequently, psychographic segmentation can lack the ability to predict what individuals are likely to purchase in any given product category (Yankelovich & Meer 2006). Accordingly, the marketer's ability to retain, or attract new customers is weakened (Choi et al. 2011). The benefits of psychographic segmentation do however outweigh any limitation and the popularity of the method is reflected in the vast array of literature presented in Table 3.3.

Table 3.3 Summary of Psychographic segmentation studies	
Psychographic Factor	Researcher (year)
Lifestyle	Lee and Sparks (2007); Naylor and Kleiser (2002); Kotler et al. (2003); Glyptis (1981); Solomon and George (1977); Schewe and Calantone (1978); Crask (1981); Goodrich (1978); Graham and Wall (1978); Sorce et al. (1989); Oates et al. (1996); and Gollub and Javitz (1988); Chin Feng Lin (2002); Alpert (1992); Frank et al. (1972); Yankelovich (1964), Littrell et al. (2004); Nimrod and Rotem (2010)
Values	Fuller and Matzler (2008); Laws et al. (2002); Lee and Sparks (2007); Scott and Parfitt (2004); Zins (1999); Holman (1984); Mitchell (1983); Shih (1986); Skidmore and Pyszka (1987); Pitts and Woodside (1986); Pizam and Calantone (1987); Madrigal and Kahle (1994); Pessemier (1967); Plummer (1974); Lezer (1963)
Personality	Rokeach (1973); Dhalla and Mahatto (1976); Howard (1977); Pitts and Woodside (1986); Dichter (1984); Bailey (1991); Munson (1984); Plog (1974,1987); Ingham (1986); and Maddi and Kobasa (1981); Allen (1982);
Socio-psychological motivations	Frochot and Morrison (2000); Jonsson and Devonish (2008); You et al., (2000); Pearce and Caltabiano (1983); Moscardo et al., (2001); Chon (1989); Fodness (1994); Dann (1977, 1981); Gray (1979); Beard and Ragheb (1983); Iso-Ahola (1980); Iso-Ahola and Mannell (1985); Kroppet et al. (2005); Crandall (1980); Crompton (1979, 1980); You and O'Leary (2000); Schewe (1990); Hsu (2001); Hsu and Lee (2002); Rubenstein (1980); Eysenck (1967, 1981); Jamorzy and Uysal (1994); Goossens (2000); Lee et al. (2002); Mansfield (1992); Schmidhauser (1989); Moscardo et al. (1996); Gnoth's (1997); Lee et al. (2006); Sangpikul (2007); Park and Yoon (2009); Kim and Ritchie (2012); Neves (2006); Boksberger and Laesser (2009); Carneiro et al. (2013)

Table 3.3 presents a summary of psychographic segmentation studies per psychographic factor. The table illustrates that psychographic literature is not only popular but it suggests there are relationships between lifestyle, values, personalities, travel motivations, and preferences for vacation activities. The labels attached to this method can therefore vary within literature. For example, psychographic segmentation can be labelled, involvement segmentation (Kim and Patrick 2004; McCleary et al. 2005) or lifestyle segmentation (Naylor and Kleiser 2002; Kotler et al. 2003). Alternatively, psychographic segmentation can be labelled, value segmentation (Fuller and Matzler 2008; Laws et al. 2002; Lee and Sparks 2007; Scott and Parfitt 2004), or general psychological motivation (Fodness 1990; Dann 1981; Beard and Ragheb 1983; Laws et al. 2002; Scott and Parfitt 2004). To clarify the contribution of each psychographic factor:

lifestyle, values, personality, and socio-psychological motivations within tourism research, a sample of the studies using these factors are assessed in the following sub-sections.

3.3.1.4.1 Lifestyle, value, and personality segmentation

Lifestyle typologies are an effective segmentation base within psychographic market segmentation (Lee and Sparks 2007). For example, Solomon and George (1977) could distinguish between history and non history-oriented tourists. Crask (1981) using lifestyle segmentation formed five segments: the restful and relaxed vacationers, the sightseers, the cost conscious, and attraction oriented tourists, the sports enthusiasts, and the campers. Goodrich (1978) identified different vacation lifestyles for four groups of holidaymakers: passive entertainment, active sports, outdoor types, and historical and cultural interests. Each segment portrayed different interests, motivations, and preferences for vacation activities.

Conversely, Zins (1999) used the values of an individual to identify nine different vacation styles for distinct psychographic profiles of tourists. Each segment represented different values, different travel motivations, and different vacation activities. Mitchell (1983), Shih (1986), and Pizam and Calantone (1987) used values, along with attitudes, and lifestyles (VALS) to assess whether personal values affect travel habits. They assessed whether personal values affect destination selection and whether travel behaviour is determined by a person's general and vacation-specific lifestyle. They found individuals have different values whereby some are carefree, comfort seeking, sightseers, others are escapists, culturalists, nature-loving or safety or ambience seeking. Similarly, Skidmore and Pyszka (1987) used values and lifestyles to identify three different groups of international pleasure travellers (the achievers, the societal conscious, and the belongers). They concluded that all three possessed different travel motives.

Rokeach (1973) used psychographic segmentation in terms of cultural values, whereby differences in peoples' cultural values, determine

differences in behaviour. Pitts and Woodside (1986), Bailey (1991), and Plog (1974) concluded that values and personality determine destination travel patterns, tourists' motivation, and activities. Allocentric travellers for example, tend to travel to unfamiliar and unique destinations while psychocentric travellers tend to visit familiar and well-established locations. Eysenck (1967, 1981) suggested extroverts and introverts engage in different activities, with extroverts preferring highly social activities and introverts avoiding social activities and excitement. In addition, Zuckerman (1979) found that individuals who sought sensation spent more time engaged in highly stimulating and risky activities than those who did not seek sensation. Shoemaker (1989) segmented the travel behaviours of seniors as 'family travellers', 'active resters' and the 'older set'. Conversely, Nimrod and Rotem (2010) distinguished seniors according to destination activities undertaken and benefits gained. The segments derived include learners, urbans, entertained and spiritual tourists. In addition, Neves (2006) identified the motivations of Portuguese seniors as evasion/relaxation/discovery and another segment more interested in shopping.

This literature review highlights the psychographic factors: lifestyle, values, cultural values, and personality traits. They not only successfully segmented markets, they also create diverse segments. Using the lifestyle, values, cultural values, and personality traits, this research aims to segment the North American coach tourist in Ireland, i.e., establish *who* these tourists are. Determining whether these tourists differ would contribute to Irish segmentation analysis. However, despite the popularity of lifestyle, values, and cultural segmentation, vast arrays of literatures use a different psychographic factor: motivational segmentation. Details of this popular approach are outlined below.

3.3.1.4.2 Motivational segmentation

Frochot and Morrison (2000) concluded psychological travel motivations are critical variables in undertaking holidays. Maslow (1943) ranked psychological needs (basic bodily needs) of an individual in a hierarchical structure where needs act as motivators. Based on Maslow's theory, Pearce (1988, 1991, 1993), Pearce and Caltabiano (1983), and Moscardo and Pearce (1986) developed the Travel Career Ladder (TCL) whereby needs are labelled in ascending order: relaxation needs, safety/security needs, relationship needs, self-esteem and development needs, and self-actualisation/fulfilment needs. Dann's (1977, 1981) push and pull model, however, has been the most widely used as an intuitive approach for exploring the motivations underlying tourist behaviour (Baloglu and Uysal 1996). Dann (1977, 1981) concluded people are pushed by their own internal forces to travel, and are pulled by the external forces of destination attributes. Push factors prompt an individual to take a holiday (e.g. escape, relaxation), while pull factors attract an individual to a particular destination (e.g. sun, sea). Socio-psychological motives such as push factors can therefore explain tourists' needs (Dann 1977; Chon 1989; Fodness 1994) and specific destination attractions such as pull factors can explain motives (Dann 1981).

Dann (1977) proposed two dominant motives for travel: anomie and ego-enhancement. Anomie refers to a push factor in which the individual seeks to "transcend the feeling of isolation obtained in everyday life, where the tourist simply wishes to 'get away from it all'" (Dann 1977:187). Ego-enhancement relates to personality needs and is the desire "...to have one's ego enhanced or boosted from time to time" (Dann 1977:187). Extending Dann (1977), Gray (1979) indicated there were two main motivations for travel: wanderlust and sun-lust. Wanderlust refers to a desire to escape from the everyday and travel to new and unknown destinations, and sun-lust relates to a preference for travelling to a destination with specific facilities that do not exist in the tourist's place of residence (e.g. coral reefs and snow-covered mountains). Crompton (1979) also attempted to expand

Dann's theory by stipulating nine motives for travel. Seven were socio-psychological or push factors, while two were cultural or pull factors. These motivations were classified according to the following typology by Goelder and Ritchie (2003):

- (i) Physical, such as relaxation;
- (ii) Cultural, such as discovering new geographical areas;
- (iii) interpersonal, such as socialising and meeting new people;
- (iv) prestige, such as self-esteem and self-actualization.

Since Crompton's (1979) initial effort, many studies have attempted to find push and pull motivations in different settings. For example, Jamorzy and Uysal (1994) found push factors referred to the inner desires of the individual, while pull factors were secondary motivations connected to the destination attributes. Like Dann (1977, 1981), Mansfield (1992) and Jang and Cai (2002) used push and pull factors to explain tourist destination-choice, however, Goossens (2000) went one step further developing a conceptual model of motivation using push, pull and hedonic factors to examine the importance of destination attributes in choosing a holiday. He concluded that both travel experience and emotional needs affect destination choice behaviour. In addition, Mayo and Jarvis (1981) found tourism motivation could be divided into four categories namely; physical motives (rest, relaxation, recreation and physical health); cultural motives (desire for knowledge about other countries culture); interpersonal motives (the desire to meet people and get away from routine of life) and status and prestige motivations (the desire for self-recognition and personal development).

Iso-Ahola (1980) postulated that different social environments and influences affect motivations and activities. Iso-Ahola (1982) proposed a two-dimensional theory of tourism motivation consisting of approach (seeking) and avoidance (escape). Individuals seek satisfaction from leisure activities for two major reasons: intrinsic rewards (such as feelings of mastery and competence), and escape (from the routine of everyday life). Beard and Ragheb (1983) extended Iso-Ahola's (1980, 1982) work when

they devised a Leisure Motivation Scale model (using psychological and sociological reasons) to assess travel participation in leisure activities. They deduced four subscales for measuring leisure motivation: the intellectual component, the social component, the competence-mastery component, and the stimulus-avoidance component. Ryan and Glendon (1998) confirmed these findings when they concluded four types of travel dimensions: social (to have friendship and interpersonal relationship), relaxation (to escape and search), intellectual (to learn, explore, and discover), and competence-mastery (to achieve, challenge, master, and compete). These dimensions also explained the travel motivations of wine tourists in special interest tourism (Brown & Getz 2005) and cycle tourists (Ritchie 1998; Ritchie et al. 2010).

Ingham (1986) concluded that leisure-oriented individuals are intrinsically motivated (e.g. do things for their own sake) and extrinsically motivated (e.g. money motivated). Further analysis of these concepts by Mannell and Iso-Ahola (1987) developed the escaping (personal) and seeking (interpersonal) dimensions of leisure motivation. Similar to Dann's (1977) anomie and ego-enhancement, Mannell and Iso-Ahola (1987) found the psychological benefits of leisure travel experience arise from the interaction of two forces; escaping from the routine and stress of everyday environments, and seeking recreational opportunities for certain intrinsic rewards. While Krippendorf (1987) outlined other reasons why people travel, including recuperation and regeneration, compensation and social integration, escape, communication, broadening the mind, freedom and self-determination, self-realization, and happiness. Extending Ingham (1986) and Iso-Ahola (1982), Uysal and Jurowski (1994) concluded people travel because they are pushed by intrinsic motivators, such as the desire for escape, rest, and relaxation, prestige, social interaction, and fitness. Schmidhauser (1989) suggests people are inevitably motivated by a range of deficit factors to compensate social (need for human contacts and friendliness), climate (urge for sun and warmth), activity (need for sports participation), and experiences (need for new discovery), as well as deficits in enjoyment of scenery, luxury or prestige, and lack of freedom. Fodness

(1994) developed a self-report scale relating leisure tourism to motivators such as knowledge (cultural and educational motives); punishment minimization (need to escape or stimulus-avoidance) reward maximization (or pleasure and sensation seeking); and self-esteem' and ego-enhancement (or social prestige). Similar to Fodness (1994), Moscardo et al. (1996) found travel motivations may also be related to the travel benefit factors including escape, self-development/self-esteem, family relationships, physical activities, safety, and security. In 1996, Pearce distinguished between intrinsic and extrinsic motivations, while Gnoth's (1997) theory of tourism motivation suggests both inner-directed and outer-directed values play a role in motivation formation. Inner-directed values relate to push factors and include primarily emotional drives, while outer-directed values are associated with pull factors and tend to be cognitive in nature.

Reviewing the literature of the early 1990s, Manfredi, Driver, and Tarrant (1996) found several motivational themes: achievement, autonomy, meeting similar and new people, learning, enjoyment of nature, introspection, social escape, physical escape, teaching, and risk reduction. Lee et al. (2002) suggests that pull factors exert a more significant influence on destination choice, compared to psychological or push motivations. Pearce and Lee (2005) noted the primary motivational factors of all travellers included escape, relaxation, relationship enhancement, and self-development. Jang and Wu (2006) on the other hand, found push factors included knowledge-seeking, relaxation/family togetherness, while the pull factors were natural/historic environments, cost, facilities, safety, and accessibility. Finally, Prayag (2012) found the push and pull motivations of senior tourists visiting Nice, France rely solely on rest and relaxation, spending time with family, and being together as a family, weather, watersports, scenery, and attractions.

The literature review reveals the diversity and popularity of motivational segmentation within tourism research. Several travel motivators were highlighted including push and pull motivators, intrinsic and extrinsic needs, emotional needs, environment needs, and satisfaction levels. However, a

review of the literature reveals Dann's (1977, 1981) push and pull model has been adopted the most.

3.3.1.4.3 Motivation and overseas tourists

There is a substantial literature addressing overseas tourism. Cha et al. (1995) for example, identified three groups of Japanese pleasure travellers. The first group were the sport seekers (who place high importance on sports activities), corroborating Schmidhauser (1989), and Uysal and Jurowski (1994). The second group were the novelty seekers (ranking knowledge gain, adventure and travel bragging as important); and the final group were the family/relaxation seekers (who rate relaxation and family factors highly). Ap and Mok (1996) examined the travel motivations of Hong Kong residents and determined six important factors: personal/social fulfilment, sightseeing, new experience, relaxation, prestige, and kinship.

Similar to Cha et al. (1995), Park and Mok (1998), suggests the travel motives of Korean tourists as social/personal fulfilment, prestige, relaxation/exercise, cultural interest, family/kinship, and new experience. Cha and Jeong (1998) differentiated the motivations of Korean travellers to Australia and New Zealand into the student/backpacker group, the honeymoon group and the package group. Their important travel motives were push and pull motivational factors: sports, safety, maximisation of pleasure, experience of new culture and self-improvement, tourist attractions, natural environment, leisure activities, resort environment, and tourism infrastructure. Cleaver et al. (1999) identified the travel motives of Australian senior travellers as nostalgics, friendlies, learners, and escapists. Each group had different travel motives to participate in tourism activities. Nostalgics for example, travelled to visit friends and relatives; friendlies liked to travel to meet new people; learners looked for new experiences in different destinations whilst escapists travelled to relax and escape from busy life. Similarly, You and O'Leary (2000) segmented the older UK market into three distinct groups: the passive visitors, the enthusiastic go-getters, and the culture hounds. These three segments exhibited distinct

differences in demographics, activity participation, travel philosophies, trip frequencies, and other travel characteristics. Consistent with You and O'Leary (2000), Norman et al. (2001) examined the travel motivations of American mature tourists. Push factors included escape, education, family, activity, relaxation, and ego enhancement, whilst pull factors included natural surroundings, good weather, tourism infrastructure, budget accommodation, cultural and historical attractions, manmade attractions, people, facilities, and outdoor opportunities. Ryan and Mo (2001) concluded there were four types of Chinese visitors travelling to New Zealand: the sightseers (who wish to relax, sightsee, and visit new places); the investment seekers (who look for investment and educational opportunities); the package holidaymakers and the low scorers (who were not active in answering the question items).

Supporting Schmidhauser (1989), Heung et al. (2001) concluded there were five factors underpinning the motivations of Japanese travellers: exploration, attractions and climate, dream fulfilment, push motivations, and trip characteristics. Jang et al. (2002) extended Heung et al. (2001) by investigating the travel motives of Japanese tourists to the USA and Canada. They found Japanese tourists could be segmented into three clusters: the novelty/nature seekers (who liked to experience a new culture and were eager to seek new knowledge), the escape/relaxation seekers (who prefer vacations to get away from their normal hectic lifestyles and relax), and the 'family/outdoor activities seekers (who value outdoor activities and family and relaxation most). Sangpikul (2008) concluded psychological well-being (i.e. positive affect) and education were the two main factors that influence the travel motivations of Japanese senior travellers to Thailand.

Like Jang et al. (2002), Kau and Lim (2005) posited the travel motivations of visitors from China to Singapore as the family/ relaxation seekers, novelty seekers, adventure/ pleasure seekers and prestige/knowledge seekers. In turn, Sellick (2004) found the travel motives of Australian senior tourists were discovery and self-enhancing tourists, enthusiastic connectors, reluctant travellers, and nostalgic travellers. In 2006, Jang and

Wu examined Taiwanese tourists and, like Norman et al. (2001), their study identified push factors including ego-enhancement, self-esteem, knowledge-seeking, relaxation and socialization, and pull factors comprising of 'cleanliness and safety', 'facilities event and cost' and 'natural and historical sights'.

Beh and Bruyere (2007) deduced the visitor motivations to reserves in north central Kenya as escapists, learners, and spiritualists. While Jonsson and Devonish (2008) concluded the top, trip motivations of Canadian tourists to Barbados include the need to engage in various physical water-based activities such as motor boating and sailing. Consistent with Kozak (2002), Jonsson and Devonish (2008) found Canadian tourists were interested in visiting parks and other forms of cultural sites whereas British visitors highly rated "having fun", and did not rate "mixing with other fellow tourists" as important as the Canadians. Overall, Jonsson and Devonish (2008) revealed push factors such as "relaxation and pleasure-seeking" were ranked as the most important motivations for all nationalities visiting Barbados. This finding is consistent with that of previous studies (e.g., Brewer 1978, 1984; Cho 1991; Dann 1977; Kozak 2002; Pizam & Telisman-Kosuta 1989). It also corroborates the arguments of Krippendorf (1987) who suggests relaxation and escape motivations are the two most important psychological drivers that people experience. Jonsson and Devonish (2008) supports Kozak (2002) in stating tourist motivations are not homogeneous. Park and Yoon (2009), segmented tourists in rural areas of Korea and deduced four distinct segments: family togetherness, passive tourist, want-it-all seeker, and learning and excitement seeker. Boksberger and Laesser (2009) highlighted the motivations of seniors in Switzerland as time honoured bon vivants, grizzled explorers and retro travellers. In this work, occupation was deemed a determining factor when travelling. Mohammad and Mat Som (2010) when examining the travel motivations of foreign tourists to Jordan found eight different push motivations (including prestige, relaxation, and sightseeing among others) and eight differing pull factors (including events and activities, easy access, variety seeking among others). More recently, Kim and Ritchie (2012) profiled overseas golf

tourists into three distinct segments, the golf intensive golfers, the multi-motivated golfers, and the companion golfers. Chen et al. (2013) segmented the pull and push motivation of Chinese backpackers into ‘self-actualizers’, ‘destination experiences’ and ‘social seekers’. Finally, Carneiro et al. (2013) segmented Portuguese seniors into ‘passive seniors’, ‘socio-cultural seniors’, and ‘active seniors’.

There is a substantial and diverse set of travel motives in the overseas motivational literature (see table 3.5 for a summary). Dann’s (1977, 1981) push and pull typology, however, is the proven framework for overseas motivational behaviours applied by the researchers. The literature review confirms psychographic motivations play a key role as the approach successfully identifies differences between segments (Galloway 2002). Despite the popularity of psychographic motivations within literature, psychographic motivations assessing the travel motives of North American tourists to Ireland are scant (see ITIC 2008,²⁸ and Failte Ireland 2012²⁹). Using Maslow (1943) motivational theory, and Dann’s (1977, 1981) push and pull theory, among others, this research fills this gap in psychographic segmentation research in Ireland.

3.3.1.5 Combined Approach

Sections 3.3.1.1 through 3.3.1.4 confirm the tourist’s vacation decision is diverse and complex. Decisions involving individual’s perceptions, past experiences, motivations, information search attitudes, and intentions require detailed consideration (Reisinger and Mavondo 2004; Shih 1986). Differing segmentation bases and variables can therefore be used to build tourist profiles. Although there is no perfect way to segment (Beane and Ennis 1987; Dolnicar and Laesser 2007; Kotler et al. 2003), a single or combined segmentation base can be used to find the best and most

²⁸ Review of Ireland’s Coach Tourism Sector and future recruitment challenges ITIC, 2008. <http://www.yumpu.com/en/document/view/6947438/review-of-irelands-coach-tourism-sector-future-itic>

²⁹ Coach Tourism: a Sectoral Study, May 2012 http://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/1_Sectoral_SurveysReports/Coach-Tourism-Sectoral-Study.pdf?ext=.pdf

meaningful way to view a tourist market. A sample of tourism studies that apply Kotler's (1980) demographic, geographic, behaviour, and psychographic bases, indicating which bases were used, is presented in Table 3.4.

Table 3.4 Sample of tourism segmentation studies				
Author/s	Segmentation bases			
	Demographic	Geographic	Psychographic	Behavioural
Alpert (1972)			√	
Alipour et al. (2007)	√	√	√	√
Andereck&Caldwell (1994)		√		√
Andreu et al. (2005)	√		√	√
Bansal and Eiselt (2004)	√	√	√	√
Becken et al. (2003)	√	√	√	√
Beh and Bruyere (2007)	√	√		
Blattberg et al. (1976)	√			
Bloom (2005)	√	√		√
Bonn et al. (2005)	√	√	√	
Carmichael & Smith (2004)	√		√	√
Chang (2006)	√	√	√	
Choi &Tsang (1999)		√		√
Collins &Tisdell (2002)	√		√	√
Cleaver et al.,(1999)(2004)		√	√	
Dolnicar and Leisch (2003)	√		√	√
Dolnicar & Laesser (2007)	√		√	√
Fleischer & Pizam (2002)	√			
Flognfeldt (1999)		√	√	
Frochot (2005)	√	√	√	√
Goldsmith&Litvin (1999)	√			√
Hallab et al. (2006)	√		√	
Horneman et al. (2002)	√		√	√
Hsu & Kang (2007)	√	√	√	√
Hu and Yu (2007)	√		√	√
Hudson (2000)	√			√
Jang &Wu (2006)			√	√
Jang et al. (2007)	√			√
Johns and Gyimothy (2002)	√			√
Kau and Lim (2005)	√		√	√
Kim and Lee (2002)			√	
Kotler et al. (1991)		√		√
Kim, Wei and Ruys (2003)	√		√	
Lee et al. (2007)	√		√	
Lehto et al. (2001) (2002)	√		√	√
May et al. (2001)			√	√
Mock and Iverson (2000)	√			√
Molera&Albaladeo (2007)	√	√		√
Moscardo (2004)	√	√		√
Park et al. (2002)	√	√	√	√

Table 3.4 contd. Sample of tourism segmentation studies				
Author/s	Segmentation bases			
	Demographic	Geographic	Psychographic	Behavioural
Pennington&Lane (2001)	√		√	
Pike (2002)	√		√	√
Plummer (1974)			√	
Sarigollu and Huang (2005)	√		√	√
Scott and Parfitt (2004)			√	
Seiler et al. (2002)	√		√	√
Shin (2007)	√	√	√	
Shoemaker (1989) (2000)		√	√	
Sirakaya et al. (2003)	√		√	√
Walker and Hinch (2006)	√	√		√
Weaver et al. (2001)	√			√
You and O’Leary (2000)	√		√	√
<i>(Source: Various Literatures)</i>				

Table 3.4 shows that only a small proportion of tourism researchers use one segmentation base (for example, Alpert, et al. 1972; Kim and Lee 2002; Blattberg et al. 1976; Fleischer & Pizam 2002; Scott and Parfitt 2004). The table shows, for example Beh and Bruyere (2007) typically consider more than one segmentation base, e.g., they use geographic along with demographic information. Kau and Lim (2005) consider demographic, behaviour, and psychographic variables, whereas Sirakaya et al. (2003), among others, uses psychographic variables and behavioural variables with demographic variables. Overall, the literatures displayed in Table 3.4 show the combined segmentation approach is the most popular.

The advantages of using the combined approach are fourfold. Firstly, McGuiggan et al. (1995) found in order to attract tourists, more appropriate marketing strategies could be developed by combining tourist’s motivations with other variables such as socio-demographics, trip characteristics, and lifestyle values, among others. Secondly, Tkaczynski (2008) and Bowen (1998) conclude segmentations based on a single base are less useful, because they do not represent a diverse and heterogeneous group. Thirdly, Loker and Perdue (1992) found the combination of descriptive variables (e.g. demographic and/or geographic segmentation) with predictive factors (e.g. psychographic and/or behavioural segmentation) provide clearer insights into marketing and communication strategy formulation. Finally,

not only is the combined segmentation approach the most popular within literature, it is also considered the most useful approach for developing effective promotional and marketing products, strategies, and campaigns (Andreu et al. 2005; Lee et al. 2006; Yuan et al. 2005). Consequently, the combined segmentation approach i.e. applying two or more of Kotler's (1980) four segmentation bases, demographic, geographic, behaviour, and psychographic, is used in this research.

Although similarities exist regarding the travel and psychographic behaviours of tourists across studies, there is no consensus in the literature deciphering the most appropriate variables used to segment markets. Table 3.5 provides a summary of how segments per country and per segmentation variable, differ within literature.

Table 3.5 Sample of Segmentation Studies	
Researcher (Date) Tourist Sample/Area Segmentation Variable	Derived Segments
Shoemaker (2000) Pennsylvania Motivation	Escape and learn Retirees actives storytellers
Chen & Hsu (1999) Korean outbound Destination choice preferences	Frugal travellers excursionists privileged travellers
Kastenholz, Davis and Paul (1999) Tourists to rural Portugal Benefits	Want-it-all ruralists independent ruralists traditional ruralists environmental ruralists
Keng and Cheng (1999) Singaporean outbound Psychographic variables	Culture dissimilarity seekers Destination novelty-seekers familiarity seekers
Yoon and Shafer (1997) U.S. tourist to warm destination Travel arrangement	Independent travellers All-inclusive package travellers
Park and Yoon (2009) Rural tourists in Korea Motivation	Family togetherness seeker Passive tourist Want-it-all seeker Learning and excitement seeker
Park and Mok (1998), Korean tourists travel motivations	family/kinship cultural interest relaxation/exercise new experience Prestige Social/personal fulfilment

Table 3.5 contd Sample of Segmentation Studies	
Researcher (Date) Tourist Sample/Area	Derived Segments
Lang and O’Leary (1997) Austrian outbound nature travellers Motivation, activity participation, Destination preference	Physical challenge seekers family vacationers culture and entertainment seekers nature tourists escape and relax vacationers indifferent travellers
Loker-Murphy(1996) Backpackers in Australia Motivation	Escapers/relaxers social/excitement seekers, self-developers achievers
Pizam and Calantone (1987) personal values affect destination selection motivation	Carefree comfort seeking sightseers escapists culturalists nature-loving safety seeking ambience seeking
Silverberg Backman and Backman (1997) Nature-based tourists in Carolina, and Georgia Psychographics	Education/history camping/tenting relaxation socializing information viewing, nature
Stemerding et al.,(1996) Netherlands leisure travellers Leisure destinations	Zoo and amusement park goers amusement park fans beach fans, culture enthusiasts
Lieux, Weaver, and McCleary (1994) U.S. senior residents Motivation Demographic	Novelty seekers active enthusiasts reluctant tourists
Shoemaker (1994) U.S. travellers Benefits Motivation	Get away/family travellers adventurous educational travellers gamblers/fun oriented travellers
Loker and Perdue (1992) Non-resident travellers to North Carolina Benefits Motivation	Naturalists non-differentiators family/friend oriented excitement/escape pure excitement seekers escapists
Cleaver et al. (1999) Australian senior travellers: travel-motive segments	Nostalgics friendlies learners escapists
You and O’Leary (2000) older UK travellers demographics activities/trip frequencies	passive visitors the enthusiastic go-getters the culture hounds
Shoemaker (2000) America travel motivations	Active Retirees Active Storytellers Escape and Learn

Table 3.5 contd Sample of Segmentation Studies	
Researcher (Date) Tourist Sample/Area Segmentation Variable	Derived Segments
Sellick (2004) Australian senior travel market travel motive activities	discovery and self-enhancement enthusiastic connectors reluctant travellers nostalgic travellers
Jang and Wu (2006) Taiwanese seniors. travel motivations	ego-enhancement self-esteem knowledge-seeking relaxation and socialization cleanliness and safety facilities, event and cost natural and historical sights
Crask (1981) lifestyle segmentation motivation	restful and relaxed vacationers the sightseers the cost conscious attraction oriented tourists the sports enthusiasts the campers
Lehto et al. (2001) France travel motivations demographic	Independent Eco-tourist Enthusiastic Female Experiences Budget Conscious Relaxation Seekers
Pennington and Lane (2001) Canada travel motivations	Educational Cultural Travellers Uninvolved Traveller Active Travellers Budget Travellers Urban Travellers
Kim et al. (2003) Australia: travel motivations	Relaxed, Family, Active, Learner, Careful
Horneman et al. (2002) Australia travel motivations demographic	Aussies Pioneers Conservatives Enthusiasts Indulgers Big-Spenders
Goodrich (1978) holidaymakers lifestyle segmentation	passive entertainment outdoor types historical and cultural
Kau and Lim (2005) from China to Singapore travel motivations	family/ relaxation seekers prestige/knowledge seekers adventure/ pleasure seekers novelty seekers
Skidmore and Pyszka (1987) international pleasure travellers values and lifestyles	the achievers the societal conscious the belongers
Cleaver (2004) Australia travel motivations values	Reluctant Travellers Nostalgic Travellers Discovery and Self-enhancement Enthusiastic Connectors

Table 3.5 shows the use of segmentation variables vary. The variables in the table range from benefit, lifestyle, or value based (behavioural

segmentation approach) and/or motivation based (psychographic approach), and/or demographic based (demographic segmentation), and geographic based (geographic segmentation). Table 3.5 also shows the diverse range of segments derived. Similarly, there is no consensus about the labelling of segments. Consequently, similar segments are labelled differently by different researchers. For example, Park and Yoon's (2009) 'passive tourist' segment is similar to You and O'Leary's (2000) 'passive visitor', and Pennington and Lane's (2001) 'educational cultural travellers' segment is similar to Stemerding et al.'s (1996) 'culture enthusiasts'. This makes comparisons difficult but the table does confirm the combined segmentation approach is the most popular.

This research will therefore use the combined segmentation approach, however, to derive the segments needed to exploit fully the possibilities and opportunities presented by the North American coach tourist population to Ireland, a brief review of the literatures assessing (motor) coach tourism is warranted.

3.3.1.5.1 Coach tourism

Several empirical studies (for example Danaher & Arweiler 1996; Heung et al. 1996; Richardson & Crompton 1988) have explored similarities and differences in motor coach tourists' travel patterns, and attitudes towards specific destinations. For example, Shoemaker (1989) found different segments of the mature market take motor coach tours for different reasons including seeing new places, interactions with fellow coach tourists and escape from daily routine among others. Dunn Ross and Iso-Ahola (1991) investigated the motivations and satisfactions of coach tour groups and identified knowledge seeking, social interaction, and escape as important motivation dimensions to sightseeing coach tourists. Chacko and Nebel (1993) described the supply side of coach tourism i.e. the (motor) coach tour operators, in terms of the market they served (factors included modes of transportation, organization of tours, hotel accommodations used, business seasonality, promotion methods, and tour types offered). Duke and Persia

(1993,1994, 1996a, 1996b), conducted pre and post tour surveys of escorted tour clients assessing the expectations, importance, evaluations, and satisfactions of various tour characteristics. Whipple and Thach (1988) examined a weekend motor coach tour to Niagara Falls by measuring the relative importance of tourism service and attractions to satisfaction. Quiroga (1990) analysed foreign tourists on guided coach tours in Europe in terms of their motivational characteristics, expectations, and satisfactions. In addition, Lago and Poffley (1993) found motor coach travel does not provide independence or autonomy and emphasized more flexible and quality tour products may effectively appeal to the (senior) coach tour market. Illum and Schaefer (1995) concluded senior-oriented motor coach operators' rate destination scenery and prices more importantly than non-senior-oriented.

Comparing British and German coach tourists, Kozak (2002) found British coach tourists enjoy mixing with other fellow tourists and having fun, whereas German tourists enjoyed more nature and culture-oriented motivations, but relaxation and pleasure were rated equally important by both nationalities. Hsu (2001) explored motor coach tour choice attributes. Hsu (2001) found motor coach tourists choose to travel with a particular motor coach tour based on certain attributes such as, social activities; operator services and referrals; flexible schedule; health and safety; promotional materials; and tour operator's reputation. Using the same set of motor coach tour choice attributes, Hsu and Lee (2002) identified three distinct segments, the dependents, the sociables, and the independents. These segments were based on the motor coach selection attributes of senior motor coach tourists. The dependents were older, retired, and used friends and travel agent recommendations when choosing tours. The sociables earned the most, and they rated group activities as very important and rated promotional materials more important than travel agent and friends/relatives recommendations. The independents, on the other hand, who were the youngest and had the highest level of education, did not report any particular demands on tour operators. According to Hsu (2003), flexible schedule, tour guide, and price and value were the three best indicators of

coach tour satisfaction. Although the above literatures assesses tour attributes and satisfaction as indicators of motor coach tour choice, travel behaviours and psychographic behaviours of coach tourists are not assessed.

Wong and Lau (2001) did however investigate the behaviour of Hong Kong and Chinese tourists when taking outbound coach tour packages. Four factors within Chinese tourists' cultural values were identified. The factors included social integration, work dynamism, personal well-being, and moral discipline. Their work revealed Hong Kong and Chinese tourists preferred to travel in groups, be safe, and join separately priced activities. They recommended tour operators should include safe activities, social interaction, exposure to local cuisine, and photo taking to improve group tour packages. In addition, Baloglu and Shoemaker (2001) investigated Pennsylvania senior tourists' motor coach use and their important considerations when choosing a motor coach tour. However, this study examined the topic from a different perspective from Hsu (2001) and Hsu and Lee (2002). Instead of using tour attributes as an indicator of seniors' choice of a motor coach tour, Baloglu and Shoemaker (2001) investigated whether tourists' demographic, psychological, and psychographic characteristics explain their behaviours. They concluded senior motor coach tourists are price sensitive, activity based, travel to build friendships, they take shorter trips (2 or 3 days) rather than long ones (7 to 8 days), are less likely to return to a destination and are more likely to have low incomes.

Although several studies assess the tour attributes as indicators of motor coach tour choice, Hung and Petrick (2009) concluded a renovation of tourism products/services is necessary in order to respond to emerging customers' needs. They found treating the general coach tourist market as a homogeneous market, i.e. using a single marketing strategy to reach all coach tourists, is ineffective. In addition, they emphasised the importance of designing tour packages that satisfy tourists' psychological needs. This research consequently segments group tour participants from North America to Ireland based on their geographic, demographic, behavioural, and

psychographic (combined segmentation) characteristics. This research therefore contributes to the emerging coach tourism segmentation literature.

3.4 Segmentation in Ireland

As depicted in section 3.3, there is a vast array of tourism segmentation literature. However, segmentation is under-used in Ireland. Although segmentation methods have been carried out, to date no Irish publication has a) used the combined segmentation approach to segment an overseas tourist market, b) segmented the general North American coach tourist industry using a multivariate (factor and cluster analysis³⁰) approach. There is a gap in Irish tourism segmentation literature. This research remedies this gap.

As noted in chapter 2, the first sign of segmentation in Ireland was under the first Operational Programme of 1989-1993. Within this programme, the Tourism Development Plan included a ‘special interest activities’ section. Although the term segmentation was not used, special interest activities were grouped into three categories: outdoor activities (for example angling, field sports, cruising), personal interests (such as spas, incentive tours and pilgrimages), and leisure interests (including arts, crafts and music). This programme showed the first sign of segmentation in Ireland. An overview of the segmentation studies carried out in Ireland to date is outlined below.

The first segmentation work profiled walkers in Ireland in 2003. Insights were gained regarding a typical walker in Ireland in terms of their activities, habits, and experiences. Tourism Ireland (2006) conducted a needs-based³¹ segmentation study on the type of holidaymaker visiting Ireland. The model claimed seven core holiday needs: ‘Sightseers and Culture seekers’, ‘Social Adventurers’, ‘Outdoor Actives’, ‘Luxury Lovers’, ‘Affinity Groups’, ‘Family and Loved one’s’, and the ‘Relaxers’. Tourism Ireland divided the Sightseers and Culture Seekers into regions covering Great Britain, Europe, new and developing markets, and North America. The North American

³⁰ Chapters four and five detail these statistical approaches.

³¹ See section 3.3.1.4 for more on needs-based/behavioural segmentation analysis.

sightseer and culture seeker were defined as baby boomers. They enjoy themed guided tours, museums and art galleries, touring, castles and heritage sites, and travel by coach or car hire. Although informative, the model did not specifically analyse the North American coach tourist visiting Ireland.

Ward (2006), comprehensively segmenting the mature Irish tourist using factor and cluster analysis, found four segments: the 'Enthusiastic traveller', the 'Cultural Explorer', the 'Escapist', and the 'Spiritual traveller'. This segmentation work provided unique insights into the mature domestic Irish tourist. This research also contributed uniquely to Irish tourism segmentation research. Ward (2006: 434) recommended, "research into the tourism behaviour of the inbound market would be particularly insightful for the tourism industry in Ireland". This current research therefore fulfils this recommendation.

In relation to the coach tours, the Irish Tourist Industry Confederation (ITIC) (2008) published a report³² on the coach tourism sector in Ireland. The report concluded the demand for coach touring holidays in Ireland increased by 56 per cent between 2002 and 2006 reaching approximately 400,000 visitors in 2006. Over half arrived by air, while the remainder came by sea. Britain was deemed the largest source market for coach touring visitors with approximately 40 per cent and North Americans represented 35 per cent of the total market. The quality of the coaches was deemed brilliant, with younger people and families now choosing coach tours for choice and comfort.

Failte Ireland published a second coach tourism report in 2012 titled 'Coach Tourism: A Sectoral Study'. This report portrayed coach tourists' as a resilient sector. Coach tour numbers from Britain, North America, mainland

³² This ITIC published the report with the Coach Tourism and Transport Council (CTTC) and the Irish Tour Operators Association (ITOA). The report was launched by Dr Martin Mansergh T.D., Minister of State for Arts, Sport and Tourism.

Europe and other overseas, between 2005 and 2010 (inclusive) were provided. A summary of these numbers are presented in Table 3.6.

Area	2005	2006	2007	2008	2009	2010
Britain	141	148	154	117	111	92
North America	120	124	151	110	88	115
Mainland Europe	48	63	86	70	61	67
Other Overseas	22	22	12	30	17	26
Total Overseas	331	356	403	328	278	300

(Source: Fáilte Ireland Survey of Travellers, 2010 and sea carriers 2010)

As Table 3.6 shows, 300,000 overseas coach tourists visited Ireland in 2010. The report indicated this contributed an estimated €180 million to the Irish economy. A summary profile of the coach tourists outlined in this report is presented in Table 3.7.

Length of stay	2009	2010
6 to 8 nights	42%	46%
9 to 12 nights	26%	20%
13 to 14 nights	10%	10%
>15 nights	8%	
Average length of stay	8 nights North Americans stay longest 9.3 nights British visitors stay shortest 6.1 nights.	
Accommodation: Hotels	81%	86%
Activities		
Cultural / historical sites	91%	
Cultural event /festival	10%	
Physically active: walking	7%	
Equestrian, golf and cycling	1%	
Sources of information		
Travel agents	72%	
Internet	31% Americans (37%); British (22%)	
Travel party	Couples (40%) Travelling with other adult groups (34%) 45% Americans are couples 25% travel with other adult category.	
Age profile	33% >65 years 23% aged 55-64 18% aged 45-54 26% aged <44 years	
aged > 65 years:	British 60%; Europeans 19%; Americans 23%	

Table 3.7 shows the length of stay, accommodation, activities, sources of information, travel party, and age profiles of coach tourists to Ireland.

However, to date, there has been no statistical segmentation model analysing the coach tourist sector in Ireland. Multivariate segmentation analysis is under-used within the Irish tourism market. Devising a unique instrument³³ (questionnaire) to analyse, in-depth, the travel and psychographic behaviours of the North American coach tourists, the potential for Irish tourism providers to compete is enhanced. Formulating the unique survey to distribute to the North American coach tourists is the first step towards comprehensively segmenting this overseas market.

3.5 Application of Segmentation Bases and Questionnaire Development

Appropriate survey questions are necessary to develop accurate and succinct profiles of the North American coach tourist market. Consequently, survey questions in this work are developed and designed by reviewing relevant literature in the area. Questionnaires are the common way of gathering data for tourism segmentation studies (e.g. Bloom 2005; Horneman et al. 2002; Johns and Gyimothy 2002; Sirakaya et al. 2003; Kim et al. 2006). Creating this unique survey completes objective two of this research work: “Devise a unique instrument (questionnaire) to analyse the North American coach tourist market in Ireland”. Table 3.8 below summarises the literature used to design the questionnaire.

³³ See chapter 6 for the developments of this research’ questionnaire.

Table 3.8 Sample Tourism Literature by Key Segmentation Base and Approach		
Approach Per Segment base	Variable Theme	Authors
A priori Geographic	Country origin	Alipour et al.,(2007);Becken et al.,(2003);Beh and Bruyere (2007);Chang (2006);Frochot (2005);Hsu and Kang (2007); Kotler et al. (1991);Moscardo (2004);Park et al.,(2002)Shin (2007);Yoo et al.(2004)
Posteriori & A priori Behavioural	Trip Traits	Becken et al.,(2003); Hsu et al. (2002); Reece (2004); Yoo et al. (2004); Backman et al.,(1999); Hu and Morrison (2002); Styne and White (2006); Lasser et al. (2006); Wei and Milman (2002); Carmichael and Smith (2004); Sarigollu and Huang (2005); Sung (2004); Seong Min, Cho (2002); Cleaver (1999); Hsu and Kang (2007); Hsu and Lee (2002); Kolb (2006); Jang et al. (2002,2007); Kang et al. (2003)
Posteriori & A priori Demographic	Socio-demograph	Chandler (2004); Horneman et al.,(2002); Hsu and Lee (2002); Lasser et al. (2006); Lee et al. (2006); Lee and Sparks (2007); Pike (2002); Sung (2004); Alipour et al. (2007); Anderson and Langmeyer,(1982); Romsa and Blenman (1989); Andriotis et al. (2007); Fleischer and Pizam (2002), Kang et al. (2003);Tongren (1980); Moschis (1993, 1997, 2000, 2003, 2004)
Posteriori & A priori Behavioural	Activities	Blazey (2000); You and Lehto et al.,(2001); Rosa Acevedo (2003); Shoemaker (1989, 2000); You et al.,(1999); Hu and Yu (2007); Jang et al. (2004); Kang et al. (2003); Lee, Morrison and O'Leary (2006); Molerae and Albaladeo (2007); Morrison et al. (2003); Carmichael and Smith (2004); Sarigollu and Huang (2005); Sung (2004);
Posteriori & A priori Psychographic	Constraints	Blazey (1992); Shoemaker (2000); Fleischer and Pizam (2002); Park et al. (2002); Bieger and Laesser (2002); Chen (2003); Hsu and Kang (2007); Kang et al. (2003); Lee et al. (2006); Pike (2002); Sung (2004); Chandler (2004); Chandler and Costello (2002); Reisinger and Turner (2002); Moisey and Bischis (1999); Backman et al. (1999)
Posteriori & A priori Behavioural	Info Sources	Bieger and Laesser (2002); Chandler and Costello (2002); Horneman et al. (2002); Park et al. (2002); Sung (2004); Andriotis et al. (2007;2005); Brey et al. (2007); Chen (2003); Hyde (2006); Kang et al. (2003); Lehto et al. (2004); Luo et al. (2004); Carmichael and Smith 2004; Andriotis et al. (2005); Carmichael&Smith,(2004);Hu and Yu (2007); Sarigollu&Huang (2005);
Posteriori & A priori Psychographic	Lifestyle characteristics/ focus	Silverberg et al. (1997); Madrigal&Kahle (1994); Murphy&Murphy (2004); Swanson&Horridge (2006); Hsu&Kang (2007);Chandler (2004); Chandler&Costello,(2002);Reisinger&Turner,(2002); Fleischer&Pizam (2002); Moisey&Bischis (1999); Backman et al. (1999);Fuller&Matzler (2008); Laws et al. (2002); Lee&Sparks (2007); Naylor&Kleiser (2002); Scott&Parfitt (2004); Beh&Bruyene (2007); Dolnicar (2004); Horneman et al. (2002); Hsu&Kang (2007); Oates et al. (1996);

Table 3.8 contd. Sample Tourism Literature by Key Segmentation Base and Approach		
Approach Per Segment base	Variable Theme	Authors
Posteriori & A priori Psychographic	Character type	Alipour et al. (2007); Park et al., (2002); Bloom (2004; 2005); Pike (2002); Chandler (2004); Chandler & Costello (2002); Reisinger & Turner (2002); Fleischer and Pizam, (2002); Moisey & Bischis, (1999); Backman et al. (1999); Naylor & Kleiser (2002); Oates et al., (1996); Roberts, (1978); Shih, (1986); Schewe & Calantone (1978); Pizam & Calantone (1987); Sorce et al. (1989); Dhalla & Mahatto, (1976); Howard (1977); Moschis (2003, 2004)
Posteriori & A priori Psychographic	Motivation – Push and Pull	Among others: Lehto et al. (2002); Bansal & Eiselt (2004); Beh & Bruyere (2007); Rosa Avedo (2003); Shoemaker (1989) (2000); Bieger & Laesser (2002); Bogari et al. (2004); You et al. (1999); Cleaver et al. (1999); Laesser et al. (2006); Laws et al. (2002); Dann (1977); Mc Kercher & Chan (2005); Park et al. (2002); Reisinger & Mavonda (2002, 2004); Sirakaya et al. (2003); Chandler (2004); Chandler and Costello (2002); Gursoy & Gavcar (2002); Collins & Tisdell (2002); Wickens (2002); Reisinger & Turner (2002); Fleischer & Pizam (2002); Dann (1981); Kim & Lee (2002); Murphy & Murphy (2004); Maslow (1970); Scott & Parfitt (2004); Naylor & Kleiser (2002); Kotler et al. (2003); Dann (1981); Yuan & McDonald (1990); Chandler & Costello (2002); Jang & Wu (2006); Mehmetoglu (2007); Williams & Dossa (2003); Stoeckl et al., (2006); Dolnicar & Leisch, (2003); Becken et al., (2003)

Table 3.8 forms the basis of this study's unique questionnaire³⁴. The table shows the *a priori* and *posteriori* segmentation approaches (Section 3.2), and Kotler's (1980) four segmentation bases (Section 3.3), per variable theme. Using relevant literature, questions derived from these works will be used to assess the travel and psychographic behaviours of the North American coach tourist to Ireland. Using the combined segmentation approach, the questions will assess trip characteristics, activities sought by tourists, motivations for travel – push and pull factors, travel constraints, information sources used by tourists, lifestyle characteristics/character type, and socio-demographic characteristics.

Coach-specific survey questions were excluded from the questionnaire at the insistence of the tour operators. Questions relating to the tour package

³⁴ The survey type and data collection methods used in this research are presented in chapter six.

itself (e.g. trip pattern and trip design), the role of the tour operator when deciding the trip (e.g. service delivery and satisfaction, operator marketing practices, and motivation to choose a coach tour), as well as questions relating to the actual coach and tour guide (e.g. bus facilities, tour guide quality, general tour quality etc.), were consequently not included in the questionnaire. This limitation is discussed more fully in Section 9.7.

In relation to the segmentation bases used in this research, geographic segmentation is defined *a priori* as the target segment- the North American coach tourist is defined from the outset. Demographic segmentation categorises North American coach tourists in terms of age, marital status, gender, occupation, income levels, and educational levels. Socio-demographic questions are asked as they profile the tourists (Chapter 8) providing clear distinctions between segments. These questions also highlight any relationships that may exist between them and the other variables in the questionnaire. Behavioural segmentation segments the travel behaviours of North Americans. Questions relating to trip characteristics for example, the general travel behaviour of respondents on their most recent trip, respondents' purpose for travelling, season of travel, travel party, and length of stay, among others, are examined. Other questions assess tourists' behaviour at the destination, including activities undertaken while on holiday, and sources of information used when choosing holidays. These questions will identify the physical needs of each tourist.

Psychographic segmentation is used in the questionnaire because it informs Irish tourism providers of the type of North American tourist visiting the country. Motivations to travel, and or reasons to visit a particular country, activities sought, travel constraints, character types, and life focus, represent psychographic traits, and act as potential questions. Section 3.3.1.4.2 confirmed the majority of studies assess both push and pull psychographic motivation. This research is no different. Motivational questions in the unique survey will include reasons to travel (push motivation), and why tourists travel to a particular destination (pull motivation). In addition,

respondents will be asked what constraints stop them from travelling. Respondents' lifestyles will be assessed, along with respondent's character traits. In addition, respondents will be provided with an open-ended space at the end of each question (as set out in Bieger and Laesser 2002; Hsu and Kang 2007; McKercher and Chan 2005 among others). In this space, respondents can list alternative trip characteristics; motivations- both push and pull, holiday activities, holiday constraints, lifestyle characteristics, and character type traits. Additional open-ended questions will ask respondents what they enjoy most and least about their trip to Ireland, what one thing would have made their holiday better and any other comments, recommendations, or suggestions they may have about the topic under investigation. The culmination of these questions will be stage one towards developing this research's unique questionnaire. A full detail of the development of the questionnaire is outlined in Chapter 6.

3.6 Conclusion

This chapter completes task one in Chapter one, "Identify the usefulness of segmentation analysis". The chapter highlights segmentation is a useful and popular technique. Reference to the vast array of literature in the area confirms this. Findings from the literature review, i.e. reviewing literature across the four segmentation bases: geographic, demographic, psychographic and behavioural, confirm the combined segmentation will be used in this work. Findings in the literature review also validate the placement of questions used in this study's unique questionnaire. Whilst the chapter acknowledges segmentation has been used in Ireland, the chapter highlighted segmentation is under-used. The chapter also highlighted how this research will fill a void within tourism segmentation literature in Ireland.

CHAPTER FOUR: METHODOLOGY 1: FACTOR ANALYSIS

4. Introduction

Factor analysis is the first of two multivariate techniques used in this work to segment the North American coach tourist visiting Ireland. This chapter outlines the theoretical background of the first stage of the segmentation process. It answers whether segmentation using factor analysis can help a better understanding of the North American coach tourist market to Ireland. The chapter describes the concept of factor analysis and highlights underlying dimensions (factors) in the variables. The different types of factor analytical methods are explained along with the three steps involved in carrying it out. Although factor analysis is not new to tourism research (Fuller and Matzler 2008; Matzler et al. 2004, 2005; Cleaver et al. 1999) the chapter highlights uniqueness within this research. Published tourism literature in Ireland up to now, has never used factor analysis as a data reduction technique to segment the North American coach tourist visiting Ireland. The chapter explains how factor analysis is a multivariate technique used here to condense lengthy lists of variables. Segmentation can then be carried out and the overall aim of the thesis can be fulfilled, “Develop a comprehensive segmentation model of the North American coach tourist in Ireland”.

Factor analysis is carried out to make the dataset in the questionnaire more user-friendly and manageable for ease of interpretation of results. The rationale is to reduce “noise” in the data and enhance the ability to classify cases into distinct groups (Johnson 1998). Results are statistically related implying all-important variables are conjured up in the newer, shorter version of factors. The chapter is divided into sections: Section 4.1 defines factor analysis, Section 4.2 details the types and processes involved in factor analysis. Section 4.3 describes the different types of extraction methods. Section 4.4 highlights the different methods involved in retaining factors.

Section 4.5 explains the process of factor rotation and Section 4.6 concludes the chapter.

4.1 Factor Analysis

Factor analysis (FA) simplifies complex data sets (Kline 1994). The objective of factor analysis is to simplify the relationships (correlations) between a large set of variables by creating sets of variables that are highly interrelated. These newly formed sets of interrelated variables are the factors, which are then interpreted to determine the relationships between the variables. Put another way, factor analysis is a collection of procedures that analyses a set of observed variables and by means of a data reduction technique, groups these variables into factors that have characteristics in common (Nunnally et al. 1994; Kim et al. 1978; Pett et al. 2003; Croux et al. 2004). Variables that are related are grouped into specific subgroups displaying high within-correlations and these same variables are then considered to represent the same underlying dimension (Tacq 1997). For example, a lengthy list of sample activities to do while on holiday could be reduced to three factors of activity displaying similar core dimensions, such as physically active activities, entertainment activities and relaxation activities.

Factor analysis summarises the information contained in the data by defining factors that are representative of the original data. It assumes that the original variables are linear combinations of the underlying factors and that these factors are responsible for the co-variation among the variables. Factor analysis therefore summarizes the interaction between larger sets of variables and explains these using a smaller number of common factors that are fundamental to each component whilst ensuring the loss of information is minimised (Croux *et al.* 2004; Tinsley and Tinsley 1987; Hair et al. 1992 1995, 1998, 2006). The basic assumption of factor analysis is that some underlying structure does exist in the set of variables, which explains the interrelationships between the variables (Hair et al. 2006). Factor analysis however does not classify variables as dependent and independent. Rather,

factor analysis is an interdependence technique that examines the dataset as a whole (Hair et al. 2006; Kim et al. 1978; Kline 1994; Pett *et al.* 2003). The factor analysis model is:

$$X_i = \lambda_{i1}f_{i1} + \lambda_{i2}f_{i2} + \dots + \lambda_{ij}f_{ij} + e_i$$

(Equation 4.1)

Where λ_{ij} is the factor loading for the i^{th} variable on the j^{th} factor, f_i are the common factors and e_i describes the residual variance specific to the i^{th} variable

In 1902, Mac Donnell was the first to publish an application of factor analysis. In this work, Mac Donnell compared the physical characteristics (such as head, body, and limb lengths) between 3000 criminals and 1000 Cambridge undergraduates. Mac Donnell examined the extent to which criminals diverged in physical features from the ‘community’ and he found Cambridge graduates were taller and had larger heads. Although factor analysis had been conceptually available to researchers since the turn of the century (Thompson and Daniel 1996) due to the complex nature of the mathematical manipulations necessary to perform it, it was not used extensively until the advent of calculating machines and the computer (Gulliksen 1974; Mulaik 1986; Pett *et al.* 2003). Factor analysis has been used across several disciplines. Pearson and Spearman used it to address problems concerning the constructs of general intelligence and to determine the interdependence between two variables (Croux *et al.* 2004; Pett *et al.* 2003). Psychologists searching for a description and constructs of human intellectual abilities also used factor analytic methods (Croux *et al.* 2004; Pett *et al.* 2003). Following the delineation of test standards by the American Psychological Association in the middle of the 20th century, researchers also began utilizing factor analysis to demonstrate the validity of scores generated by their survey methods (Thompson and Daniel 1996).

The types and processes involved in carrying out factor analysis are now dealt with in sections 4.2 to 4.6.

4.2 Types and Processes of Factor Analysis

Factor analysis can be carried out in one of two ways; exploratory analysis and confirmatory analysis. The method used depends on the objectives of the researcher (Munro 2001; Pett *et al.* 2003, Kim *et al.* 1978). Both methods have a common goal: uncovering a larger set of variables to form a reduced set of underlying factors or constructs that could be used to approximate observed variables. Exploratory factor analysis is a non-theoretical application, and confirmatory analysis works contrary to this. This research uses exploratory analysis.

4.2.1 Exploratory Factor Analysis

Exploratory factor analysis (EFA) is widely used and is a broadly applied statistical technique within the social sciences. In recently published studies, EFA was used for a variety of applications including developing an instrument for the evaluation of school principals (Lovett, Zeiss, and Heinemann 2002). The methodology was also used to assess the motivation of Puerto Rican high school students (Morris 2001), to determine what types of services should be offered to college students (Majors and Sedlacek 2001), and for investigating complex areas of human psychology (Child 1990). Exploratory factor analysis can be used to understand the structure of a dataset when no previous information on the data structure is available. It re-examines patterns in data sets when factors in previous research have been questioned. However, the primary application of EFA is to explore the factor structure of a set of indicators (e.g. variables, individuals) when no previous research is available.

Exploratory factor analysis is used in two scenarios: when data is complex, and when it is not known or it is uncertain how many factors will be needed to explain the inter-relationships among a set of variables (Pett *et al.* 2003; Tabachnick *et al.* 2001). According to Pett *et al.* (2001) it is important that

researchers have no preconceived expectations regarding the number of factors that may emerge. Rather, the researcher should let the structure unfold itself from the data. The general rule in EFA is to put in as many variables as is possible and then investigate what loads on the relevant factor (Kline 1994). For example, given multiple items of information gathered on applicants applying for a teaching job, EFA highlights how many independent factors are actually being measured by these items. If underlying factors exist within a collection of these observed variables, exploratory factor analysis explains any interrelationships among these large numbers of variables (Kim *et al.* 1978; Tabachnick *et al.* 2001; Tacq 1997). Confirmatory analysis works contrary to this and is outlined in the next section.

4.2.2 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) developed by Joreskog (1973) is a statistical technique verifying the factor structure of a set of observed variables. CFA allows the researcher to test the hypothesis that a relationship between observed variables and their underlying dimension exists. A hypothesis is developed beforehand and variables that are presumed to be relevant to that factor are identified *a priori* and are submitted for factor analysis (Munro 2001). For example, given a theory with three concepts that explain child behaviour, CFA examines whether multiple measures of child behaviour reduce to these same three concepts. CFA is appropriate in situations where the dimensions of sets of variables for a given population are already known because of previous research.

Both exploratory and confirmatory approaches explain as much variance as possible with a smaller number of common factors/latent variables. However, exploratory factor analysis is more appropriate than CFA for factor development or when there is little theoretical basis for specifying *a priori* the number and patterns of common factors (Hurley *et al.* 1997). As the data in this research work is sourced using primary data, there is no *a*

priori knowledge regarding how many factors are formed, exploratory factor analysis is therefore used.

4.2.3 Suitability of Factor Analysis

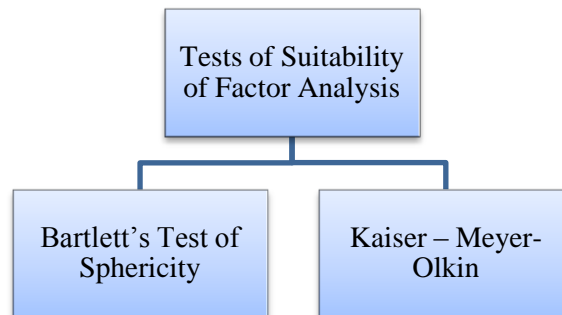
In order to perform factor analysis (FA) the data must be tested for suitability. If the data is suitable, FA is performed and a specific number of factors are extracted. Sample size is important when employing factor analysis. A rule of thumb states that there are at least fifty observations for each variable, a sample size of at least 100 cases and that there are at least three variables representing a factor (Hair, et al. 2006). Assuming that the conceptual requirements for the items included in the factor analysis have been met, the next step is to ensure that the data is sufficiently inter-correlated (related) to produce representative factors. Measures of inter-correlation are used to determine if it is appropriate to employ factor analysis.

A correlation is a numerical measure of the degree of agreement between two variables. The degree of correlation can range from -1.00 indicating a negative relationship or complete disagreement to +1.00 indicating a positive relationship or complete agreement, and 0 highlights no relationship at all (Bradley 2007; Tacq,1997). If test questions measure the same underlying dimension(s) then we would expect them to correlate with each other (+1), as they are measuring a common or underlying factor. In factor analysis, a matrix displays the correlations between the variables (Pett *et al.* 2003; Kline 1994; Loehlin 1992). The correlation matrix (R) is used to summarise the interrelationships in a set of variables or a set of items on a scale (Pett *et al.* 2003). There is a suggested rule of thumb for evaluating the strength of these relationships in Hinkle *et al.* (1998) and Pett *et al.* (2003) and these are presented in Table 4.1.

Table 4.1: Suggested Rule of Thumb for Evaluating the Strength of Pearsons r.		
Absolute Value	R^2	Strength of Relationship
0.00 – 0.29	0.00 – 0.08	Weak
0.30 – 0.49	0.09 – 0.24	Low
0.50 – 0.69	0.25 – 0.48	Moderate
0.70 – 0.89	0.49 – 0.80	Strong
0.90 – 1.00	0.81 – 1.00	Very strong
<i>Source: Hinkle et al. (1998); Pett et al. (2003)</i>		

To determine if the data is appropriate for FA a measure of sampling adequacy is used (Hair et al. 2006; Pett et al. 2003). This measure quantifies the degree of inter-correlation between items and this can be calculated using two ways as Figure 4.1 illustrates.

Figure 4.1: Tests of Suitability for Factor Analysis



4.2.3.1 Bartlett Test of Sphericity (BTS)

The first method used to measure the strength of the relationship between variables is the Bartlett’s test of sphericity (Pett *et al.* 2003; Whynes *et al.* 1999). Bartlett’s test is used to determine if correlations are present among the variables. The null hypothesis states that the correlation matrix (R) is an identity matrix (I). In this matrix, each variable is perfectly correlated with itself and completely uncorrelated with the other variables. An identity matrix is a correlation matrix with 1.0 on the principal diagonal and zeros in all other correlations. If factor analysis were to be carried out on this

matrix, the amount of underlying factors would equal the number of variables, as each variable would be its own factor. Thus, this matrix is non-factorable.

$$|R| = (1.0 \times 1.0) - (0.0 \times 0.0) = 1.0$$

The matrix determinate equals 1.0. This determinate is used to find the chi-square statistic and the chi-square is used to test the matrix for significance. If the null hypothesis (identity matrix) is not rejected, the items are uncorrelated and therefore it would not be suitable to perform factor analysis. To continue with FA, a rejection of the null hypothesis is required.

Bartlett's test of sphericity is the chi-square test (denoted χ^2) (Pett *et al.* 2003, Lu *et al.* 2006). The test is denoted as follows in Gorsuch (1983) and Pedhazur *et al.* (1991).

$$\chi^2 = - \left[(N-1) - \left(\frac{2k+5}{6} \right) \right] \log_e |R|$$

(Equation 4.2)

Where:

χ^2 = the calculated chi-square value for Bartlett's test.

N = sample size

k = the number of items or variables in the matrix

\log_e = natural logarithm

|R| = determinant of the correlation matrix

The degrees of freedom (df) for this chi-square test are $df = k(k-1)/2$

The null hypothesis is rejected if the calculated χ^2 value is greater than the expected χ^2 value, i.e. relationships exist between the variables (Pett *et al.* 2003; Tobias *et al.* 1969; Bartlett 1950). An example of the Bartlett's test as displayed within the Statistical Package for the Social Sciences (SPSS) (the statistical package used in this study) is shown in Table 4.2.

Table 4.2 KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.775
Bartlett's Test Of Sphericity	Approx. Chi-Square	850.519
	Df	28.000
	Sig	.0000
<i>Source :Primary data</i>		

The calculated χ^2 is 850.519. The observed significance level is $p < 0.000$. Consequently, the null hypothesis is rejected. This indicates the sample is not an identity matrix. A relationship does exist between the variables, the strength of which is strong. Factor analysis can therefore be carried out. The second measure used to test the suitability of factor analysis is called Kaiser-Meyer-Olkin.

4.2.3.2. Kaiser-Meyer-Olkin

The Kaiser-Meyer-Olkin (KMO) test determines whether the variables can be grouped into a smaller set of underlying factors. It is a measure of sampling adequacy. It tests whether the partial correlations among variables are small (Kaiser 1974; Phipps *et al.* 1993, Pett *et al.* 2003). The range for the KMO measure is between 0 and 1. If the partial correlation coefficient (a_{ij}) equals 0.0, then the variables are measuring a common factor, KMO will equal 1.0, and factor analysis is suitable. Conversely, if the partial correlation coefficient (a_{ij}) equals 1.0, the variables are not measuring a common factor, KMO will equal 0.0, and factor analysis is not suitable. A KMO measure of less than 0.5 generally indicates that factor analysis would not be useful. If two variables share a common factor with other variables, their partial correlations (a_{ij}) will be small, indicating the unique variance they share.

The formula for calculating this Kaiser-Meyer-Olkin measure is:

$$a_{ij} = (r_{ij} \bullet 1, 2, 3, \dots k)$$

$$KMO = (\sum \sum r_{ij}^2) / (\sum \sum r_{ij}^2 + (\sum \sum a_{ij}^2))$$

(Equation 4.3)

Where

$\Sigma\Sigma$ = sum of all items in the matrix when item $i \neq$ item j

r_{ij} = Pearson correlation between items i and j

a_{ij} = partial correlation coefficient between items i and j

Phipps *et al.* (1993) confirms that a KMO above 0.70 is a sufficient result to apply factor analysis, and over 0.80 is excellent. Pett *et al.* (2003) deems a value above 0.5 as acceptable. Any value below this inter-correlation between variables (0.5) is deemed too low and factor analysis could not be performed. Table 4.3 presents a detailed interpretation of the KMO as suggested by Kaiser (1974).

Table 4.3 Kaiser's Suggested guidelines on inter-correlation	
KMO Value	Degree of Common Variance
0.90 to 1.00	Marvellous
0.80 to 0.89	Meritorious
0.70 to 0.79	Middling
0.60 to 0.69	Mediocre
0.50 to 0.59	Miserable
0.00 to 0.49	Don't Factor
<i>Source: Kaiser (1974)</i>	

Assessing Table 4.2, where $KMO = 0.775$, the degree of common variance among the variables is 0.775. According to Kaiser (1974), this is "middling". The variables are measuring a common factor and factor analysis is suitable. Any factor that is identified will account for a sizeable amount of the variance.

Once the suitability of applying factor analysis to a set of variables has been determined, the next step is to remove the factors from that set of variables without losing valuable information (Phipps *et al.* 1993). Multiple different statistical procedures exist to undertake this task. These procedures are called "extraction methods".

4.3 Factor Extraction

In factor analysis, it is fundamental that the number of factors extracted does not exclude the factors that account for the bulk of the variance. Factor extraction therefore takes out as much common variance as possible until no common variance remains. There are several extraction methods (Kline 1994): Principal Components Analysis (PCA), Common Factor Analysis (CFA) (otherwise known as Principal Axis Factoring (PAF) or Principal factor analysis), Maximum Likelihood factor analysis (ML), and Alpha Factoring (AF). PCA is the most common form of factor analysis. It seeks a linear combination of variables to form factors such that the maximum variance is found from the variables. CFA minimises the number of common factors, which can account for the common variance explained from a set of variables, as opposed to the optimal variance explained. ML obtains factors by explaining as much of the variance in the population correlation matrix as possible, whereas PCA uses the observed correlation matrix, while AF yields factors based on maximising the reliability. Although some researchers state the difference between the extraction methods is negligible (Thompson 1996), other researchers argue that the difference is substantial enough to warrant careful consideration of the extraction method utilised (Gorsuch 1983). Since exploratory factor analysis is the method used in this work and the statistical package to carry this out is SPSS, Principal Component Analysis is applied in this work.

4.3.1 Principal Components Analysis

Principal component analysis (PCA) is used to extract factors. It is the most common method and accounts for the total variance of the variables seeking a linear combination of items (Hair et al. 2006). PCA condenses a matrix of correlations. In 1901, Pearson originally developed the method. In 1933, it was subsequently adapted for use in factor analysis by Hotelling. PCA explores the inter-relationships between the variables. It determines whether the variables can be grouped together to represent a smaller set of underlying factors. It reduces a larger number of correlated variables into a

smaller number of variables capturing a high proportion of the variance of the original variables (Niskanen *et al.* 2001). It summarises the relationships that exist among a set of variables into a smaller set of uncorrelated principal components (Pett *et al.* 2003; Tacq 1997; Tabachnick *et al.* 2001).

PCA is useful when a researcher wants to use a small number of components to summarise a larger number of variables (Tabachnick *et al.* 2001). It is a straightforward, easy to understand technique in factor analysis (Pett *et al.* 2003). It uses all three sources of variances³⁵: common, specific and random to identify the factors or components present (Gorush 1983; Nunnally *et al.* 1994; Kline 1994; Pett *et al.* 2003). It is assumed in PCA that a small number of components account for a sizeable percentage of total variance (Pedhazur *et al.* 1991). It works on the initial assumption that all variance is common. For example, in an initial solution of PCA, each variable is standardized to have a mean of 0.0 and a standard deviation of ± 1.0 . Thus, the variance of each variable equals 1.0 and a single variable can account for 1.0 unit of variance. It assumes the components extracted from the variables are not correlated and that the variables included in the analysis can be calculated perfectly by the components, which have been extracted (Pett *et al.* 2003). However when no relationship exists between the variables then each variable would make its own unique or random factor.

In PCA the correlation matrix represents the identity matrix. The initial communalities before extraction among the variables are therefore assumed to be 1.0. Communality is the extent to which an item correlates with all other items. Thus, in PCA when the initial communalities are set to 1.0 then all of the variability of each item is accounted for in the analysis. The

³⁵ Common variance is the proportion of variance shared among a set of variables which can be explained by common factors (Kline, 1994; Pett *et al.*, 2003). Specific variance is variance unique to one variable and error variance refers to the random error almost always present in measurement which is calculated as $1-r^2$ and expressed in percentage terms (Kline, 1994; Pett *et al.*, 2003).

identity matrix is the most common correlation matrix utilised in explanatory factor analysis (values of 1.0 are on the main diagonal and bi-variate correlation coefficients between the variables are on the off diagonals). It is also the default in most statistical software packages.

PCA estimates the correlation matrix through eigenvalues and eigenvectors. An eigenvalue (also called a characteristic root or latent root) is a single value representing the amount of variance (from the original reduced items) explained by each factor (Webster 2001; Pett *et al.* 2003; Verbeek 2008). The larger the eigenvalue reported for a factor, the more variance that is explained by that factor (Kline 1994). An eigenvector is a column of weights, each applicable to one of the variables in the matrix (Pett *et al.* 2001; Kline 1994; Verbeek 2008). Eigenvalues can be positive or negative. Under PCA, eigenvalues must be positive as they indicate the amount of variance in all the variables (Pett *et al.* 2003). The largest value that an eigenvalue can take is the total amount of variance of all the variables in the correlation matrix. For example, if there are 11 variables in the correlation matrix the maximum eigenvalue is 11 (Pett *et al.* 2001; Tacq 1997).

The principal components of a correlation matrix are generated by multiplying the square root of the eigenvalue by the weight of the given eigenvector (Kline 1994; Pett *et al.* 2003). (These are called factor loadings and factor loadings are the correlations of each variable with the principal component (Pett *et al.* 2003)). An eigenvalue of a given principal component is equal to the sum of the squared factor loadings of each factor (Pedhazur *et al.* 1991). This sum of squared factor loadings is the amount of variance that is present in the items. Factor analysis therefore involves the use of eigenvalues and the corresponding eigenvectors to “consolidate the variance in a matrix (the eigenvalue) while providing the linear combination of variables (the eigenvector) to do it” (Tabachnick *et al.* 2001: 915).

The eigenvalues and eigenvectors that are needed to calculate the principal component are obtained by an iterative procedure (Kline 1994, Guidici

2007). A trial vector (column of weights on a variable) is tested against a certain set of values and depending on how much the vector deviates from that set of values, this vector is modified producing a second vector and this continues until additional iterations produce almost exactly the same results (Kline 1994). In this vein, each eigenvector are ordered, based on their associated eigenvalues. The eigenvector containing the largest eigenvalue is the first component (i.e the first principal component explains the largest proportion of the variance). The eigenvector containing the second highest eigenvalue is the second component (i.e explains the next highest proportion of variance). The second component is uncorrelated to the first component because the influence of the first component has been removed from the matrix (Pett *et al.* 2003). One can continue extracting until the coefficients are so small that it is clear there is little variance to account for and the factor loadings will be very small. According to Nunnally *et al.* (1994) the process of extracting components from the matrix is repeated until all that remains in the matrix is random error.

The eigenvalues for the principal components for a sample of 11 variables is shown below. PC₁, PC₂ ... PC₁₁ would be given as:

$$\begin{aligned} \lambda_1 &= (a_{C1I})^2 + (a_{C2,I})^2 + \dots + (a_{C10,I})^2 + (a_{C11,I})^2 \\ \lambda_2 &= (a_{C1II})^2 + (a_{C2,II})^2 + \dots + (a_{C10,II})^2 + (a_{C11,II})^2 \\ &\dots \\ \lambda_{11} &= (a_{C1XII})^2 + (a_{C2,XII})^2 + \dots + (a_{C10,XII})^2 + (a_{C11,XII})^2 \end{aligned} \tag{Equation 4.4}$$

Where

λ_1 = eigenvalue for PC_I

$a_{C1I} \dots a_{C11I}$ = factor loadings of items C1 to C11 on PC_I

λ_2 = eigenvalue for PC₂

$a_{C1II} \dots a_{C12II}$ = factor loadings of items C1 to C12 on PC_{II}

...

λ_{11} = eigenvalue for PC_{XII}

$a_{C1XII} \dots a_{C11XII}$ = factor loadings of items C1 to C11 on PC_{XII}

The amount of variance explained by each individual component decreases with the number of components extracted. It is therefore important to include how many factors to retain.

Deciding how many factors to retain is one of the most important methodological decisions when using exploratory factor analysis (EFA) (Hayton et al. 2004). The decision is important for a few reasons. Firstly, deciding how many factors to retain may be more important than other decisions such as choice of factor analytic method and rotation type as there are several alternatives for these decisions (Zwick and Velicer 1986). Secondly, the effectiveness of EFA depends on being able to differentiate major factors from minor ones (Fabrigar et al. 1999). Finally, there is both empirical and conceptual evidence indicating the extraction of too few or too many factors are errors that affect results.

The importance of factor retention is justified as ignoring a factor, or combining it with another, may specify errors, resulting in a loss of important information (Zwick and Velicer 1986; Hayton, et al. 2004). Velicer et al. (2000) cites that this demonstrates poor factor-loading pattern reproduction and interpretation. Although potentially less severe, specifying too many factors can also lead to several issues. Firstly, it can lead to focusing on minor factors at the expense of major ones. It can lead to the creation of factors with only one high loading. It can lead to factors that are difficult to interpret, as well as factors that are unlikely to replicate (Zwick and Velicer 1986). Therefore, selecting both too few or too many factors have significant consequences for the reduction and interpretation of information in a data set. Detailing specific retention methods to decide how many factors to retain is therefore necessary.

Despite the importance and amount of research on retention methods, there is no consensus on the appropriate criteria to use or to determine how many

factors to extract from a set of variables (Pett *et al.* 2003). A number of criteria are available to assist, but they do not always lead to the same or even similar results (Carraher and Buckley 1991; Thompson and Daniel 1996; Zwick and Velicer 1986). Since different retention methods can often generate divergent results, it is generally important to examine more than one factor retention method (Kieffer 1998). The three methods employed to determine the number of components to extract, are outlined below.

4.4 Factor Retention

When deciding how many factors to extract, the first step calculates the number of factors to retain. Figure 4.2 highlights the various options that help decide how many factors to retain after the initial extraction. Although researchers retain factors up to the point whereby additional factors account for small amounts of the variance, there are a number of different guidelines.

Figure 4.2: Criteria for Retaining Factors after Initial Extraction

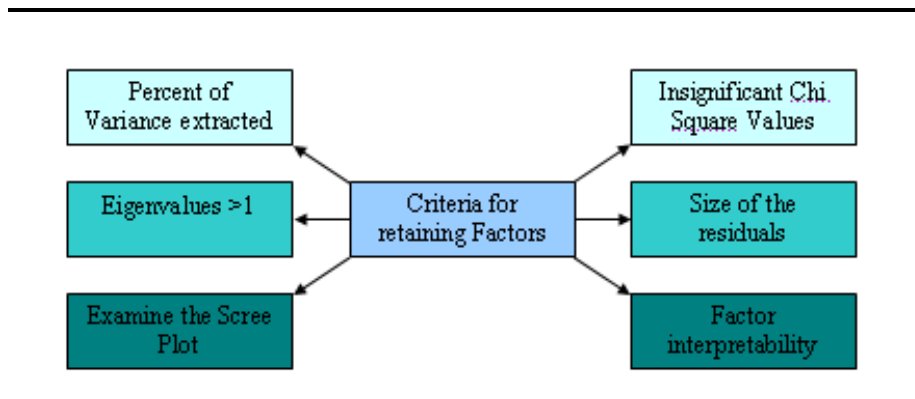


Figure 4.2 presents six options to determine the number of factors to retain. This research uses three methods. The first is the Kaiser-Guttman (K1) rule. This method is one of the most common methods acting as the default criterion on statistical packages like SPSS (Comrey and Lee, 1992; Guttman, 1954, 1953; Nunnally *et al.* 1994). Cattell's (1966) scree test is the second method, and the third method involves the calculating of the percent of variance extracted. Other methods that can be used to determine the extraction of factors include: Bartlett's (1950) chi-square test, maximum

likelihood estimation, Velicer's (1976) minimum average partial method (MAP), parallel analysis (Horn, 1965), as well as less quantitative approaches such as choosing the most interpretable solution and relying on theoretical expectations.

In practice, one, some, or all of these methods can be utilised. There is evidence indicating they all differ in their ability to identify factors. However alternate tests such as Velicer's MAP and parallel analysis (Velicer and Jackson, 1990) are not available in the most frequently used statistical software and must be calculated by hand (Costello and Osborne 2005). Consequently, researchers frequently rely on the Kaiser- Guttman rule, and the scree test (Hayton et al. 2004). These methods along with the percentage of variance explained are used in this research and are explained in what follows.

4.4.1 Kaiser-Guttman Rule

Kaiser's criterion is also known as "Kaiser" rule, the "Kaiser-Guttman" rule, the "K1" rule, or "the latent root criterion". Kaiser (1974) proposed the "eigenvalue greater than one" rule. Only factors that have eigenvalues greater than one are considered significant enough to extract. The eigenvalues represent the amount of variance in the sample accounted for by a factor. An eigenvalue of 1 for example, explains the variance of a single variable in the data. Therefore, any eigenvalue selected using this rule explains more variance than a single variable (Pett *et al.* 2003; Tabachnick *et al.* 2001). According to Tabachnick *et al.* (2001) eigenvalues less than one are not as important as an observed variable.

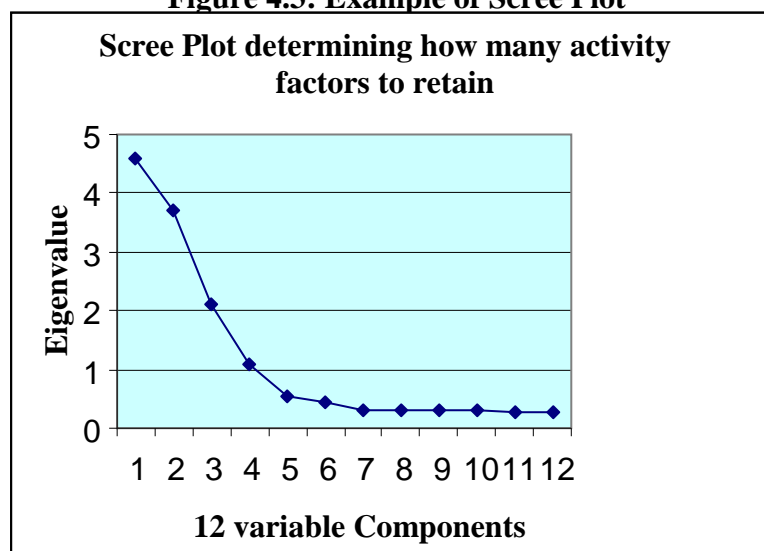
Studies have shown however that the K1 rule is inaccurate and tends to over-factor (Hayton et al. 2004, Horn 1965; Linn 1968). For example, Zwick and Velicer (1986) concluded the Kaiser rule was correct only 22 per cent of the time. They recommend that the K1 rule no longer be used for determining factor retention. Despite the flaws associated with Kaiser's criterion, the method is set as default in most software including SPSS.

Without further specification, Kaiser’s criterion is therefore the method used here. To overcome any over-factoring or inaccuracies however, the researcher also uses two other retention methods: the Scree test and the per cent of variance extracted.

4.4.2 Scree Plot

According to Costello and Osborne (2005), the best choice for factor retention is the scree test. The Scree test first devised by Cattell in 1966, visually determines the number of factors to extract. The Scree plot illustrates the number of extracted factors against their corresponding eigenvalues from highest to lowest. A Scree plot shows a line plot by specifying the variance explained by each factor on the vertical axis and the number of factors on the horizontal axis. Higher eigenvalues have a steeper slope and the slope trails off for smaller eigenvalues. Determining the number of factors to be extracted is identified by looking at the natural bend or break point in the data where the curve flattens out (Pett *et al.* 2003). The eigenvalue is usually highest for the first factor extracted and moderate yet decreasing for subsequent factors (Tabachnick *et al.* 2001). The point at which the plot levels off denotes the number of factors to extract. According to Cattell *et al.* (1966) and Gorush (1989) the point where the factors curve over the straight line that is drawn through the lower eigenvalues identifies the break i.e the number of factors. Figure 4.3 depicts an example of a Scree plot with four significant factors.

Figure 4.3: Example of Scree Plot



The disadvantage of using Scree plots is that several straight lines could be drawn indicating several breaks in the data, or there may not be any distinct break in the data (Pett *et al.* 2003). Cattell (1966) originally suggested the cut off factor was the first factor on the straight line, later he changed this to those positioned before the beginning of the straight line. Tabachnick *et al.* (2001) suggested it is where the line drawn through the eigenvalues changes slope. Research results using Scree plots as a retention method can therefore be unclear. However, Kline (1994) points out several factor analysts indicate that the Scree test is probably the best method of deciding the correct number of factors to retain. Scree plots are also favoured over the Kaiser-Guttman method by Gorsuch (1983) as they can be used when not only 1.00s appear on the diagonal of the correlation matrix. Gorsuch (1983) indicates Scree plots are particularly reliable when there is a large sample size or when the ratio of variables to factors is at least 3:1 (in this research work, the ratio is 4:1, i.e. 67 variables to 16 factors). Scree plots are therefore a retention method used in this research work. The next section explains the third and final retention method, the percentage of variance explained.

4.4.3 Per cent of Variance Extracted: An Explanation

Factor extraction occurs in order of importance. The first factor extracted explains the most variance between the variables. All other factors extracted thereafter explain the remaining variance, which decreases after each extraction (Pett *et al.* 2003). According to Pett *et al.* (2003) the extraction process is complete when a certain amount of variance percentage has been reached (between 75 per cent and 80 per cent). Hair *et al.* (1995) suggests that factor extraction in the natural sciences should operate until there is at least 90 per cent of variance extracted or, until the final factor extracted accounts for less than 5 per cent of the explained variance. However Pett *et al.* (2003) cited that variances in the tourism and social science arena are much lower with extracted factors accounting for between 50 and 60 per cent. This research abides by these levels.

Using the three methods, Table 4.4 presents the SPSS findings from a sample question: “How important are the following variables for you to go on a leisure vacation?”³⁶ All three retention methods are applied to the question. In principal component analysis, the variance of each variable is 1.0. As the question has eight variables, the total variance to be explained is eight. Eight factors (components) are thus extracted, the same as the number of variables factored. Using the Kaiser- Guttman rule whereby a useful factor must have an eigenvalue $\lambda > 1.0$ (otherwise the factor extracted explains no more variance than a single variable) two factors are extracted.

Eight comp	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squares		
	Total	% of Variance	Cum %	Total	% of Variance	Cum %	Total	% of Variance	Total
1	2.99	37.41	37.41	2.99	37.41	37.41	2.36	29.52	29.52
2	1.30	16.30	53.71	1.30	16.30	53.71	1.94	24.19	53.71
3	.88	10.99	64.71						
4	.77	9.64	74.35						
5	.60	7.47	81.82						
6	.53	6.66	88.48						
7	.48	5.98	94.46						
8	.44	5.54	100.0						
<i>Extraction Method: Principal Component Analysis Rotation Method: Varimax; Source: Primary Research</i>									

Factor (Component) I

The 1st factor extracted has an eigenvalue of 2.993. As this is greater than 1.0, it explains more variance than a single variable (2.993 times as much). The percentage variance explained is (2.993 divided by 8 units of variance, multiplied by one hundred) 37.413 per cent.

Factor (Component) II

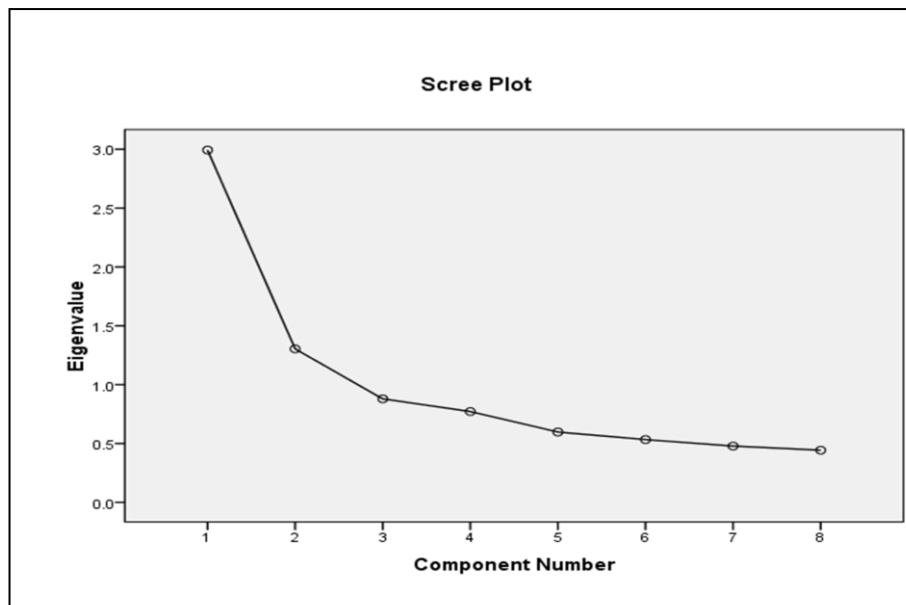
The 2nd factor extracted has an eigenvalue of 1.304. This is also greater than 1.0, explaining more variance than a single variable. The per cent of variance explained is (1.304 divided by 8 units of variance, multiplied by one hundred) 16.297 per cent.

³⁶ All 6 questions that are factor analysed are displayed in Appendix B

Factors 3 through 8 have eigenvalues less than 1. These factors explain less variance than a single variable; consequently, the factors are not extracted. However, the sum of the eigenvalues associated with each factor (component) sum to eight i.e. $(2.993 + 1.304 + 0.880 + \dots^{E-02}) = 8$. The cumulative per cent of variance explained by the first two factors is 53.710 per cent. This implies almost 54 per cent of the common variance shared by the 8 variables can be accounted for by two factors. This corroborates with the findings of Pett et al. (2003) and Tabachnick, et al. (2001) as the factors extracted account for more than their share of the total variance in the variables. Fifty-four per cent also corresponds with the average extraction percentage that is accepted within social science literature.

The final extraction method to confirm the extraction of two factors is the Scree plot. Figure 4.4 depicts this. The break in the slope i.e. the number of factors to extract is after two factors. After two, the plot levels off denoting any additional factors explain very little variance.

Figure 4.4 Scree plot determining how many factors to retain



Acknowledging the advantages and disadvantages of each extraction method, combining three methods eliminates any doubts and verifies the number of factors to be extracted. Extraction under factor analysis therefore condensed the original list of eight variables to just two extracted factors.

The extraction process is not complete however. It is necessary to interpret the factors. Initial factor extraction may not produce interpretable factors however and for this reason, factor rotation occurs.

4.5 Factor Rotation

Factor rotation is step two when extracting factors from a set of variables (Nunnally *et al.* 1994). When performing factor analysis, a factor matrix is formed (Hair *et al.* 2006; Kline 1994). By default, SPSS produces an initial factor matrix solution. This solution displays the first set of factor loadings output. However, this solution does not produce easily interpretable results. Items may not fall nicely to their associated variable. According to Hair *et al.* (1995) factor rotation turns the reference axes of the factors about their origin. This rotation obtains a more meaningful factor solution (in essence, a simpler structure). The next step is to optimise the factor with respect to the larger factor loadings through rotation. The factor matrix is rotated to facilitate an easier interpretation. It identifies the rotation that produces factor loads as close as possible to -1, 0 or +1. Thompson (1984) for example indicated that an un-rotated pattern structure matrix misrepresents the true nature of the factors and that factor rotation resolves this misrepresentation. Rotation simplifies and clarifies the data. It changes the values of the factor loadings giving a solution that is much easier to interpret while also retaining the same amount of variance (Thurstone 1947). Rotation cannot however improve the basic aspects of the analysis by discovering more common variance. Factor rotation simply redistributes the variance that has been previously explained by the extracted factors (Costello and Osborne 2005). It improves the solution in terms of interpretation and utility, as each variable is associated with one factor only (Tabachnick *et al.* 2001; Everitt *et al.* 2001, 1974).

Figure 4.5 illustrates a hypothetical two-factor solution involving eight variables. Variable 1 and 2, load on Factor one. Variables 3, 5, and 6 loads on Factor two, and variables 4, 7 and 8, load about the same on both factors. When the factors are rotated 90 degrees (Figure 4.6), variables 1,2,5,7, and

8 loads on Factor two, and 3, 4, and 6 now load on Factor one. The rotated factor pattern is clearer than the previously un-rotated pattern. The factor coefficients now load more readily on one factor.

Figure 4.5 Hypothetical Un-rotated two-factor Solution

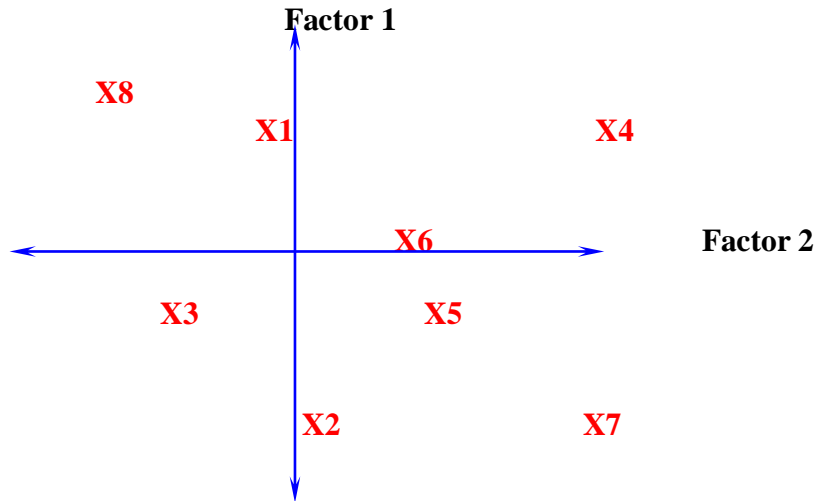
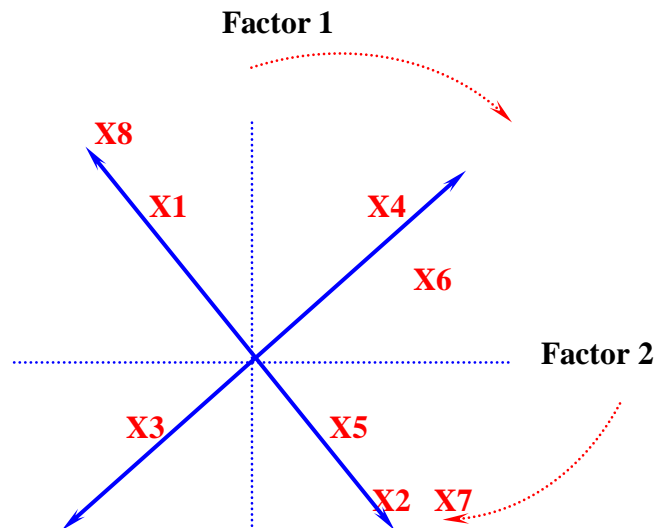


Figure 4.6 Hypothetical Rotated two-factor Solution



There are dozens of rotation methods available in literature. However, there are two major rotation techniques to carry out on a set of factors: orthogonal and oblique (Tabachnick *et al.* 2001, Pett *et al.* 2003; Kline 1994). Orthogonal rotation assumes that all generated factors are independent of each other as they are rotated at right angles to each other (Pett *et al.* 2003).

There is therefore no relationship between the factors. They are uncorrelated and the solutions offered by the rotation are easy to interpret and report. Conversely, oblique rotation assumes that factors are not independent of each other. There is some correlation between two or more factors being rotated. The factor axes can take up any position and the factor loadings are correlated but do not specify the amount of variance explained for each variable (Kline 1994). Consequently, the results are not so easy to report and interpret (Tabachnick *et al.* 2001). Although Tabachnick *et al.* (2001) suggests a guideline to decide which rotation to use. Conventional wisdom advises researchers to use orthogonal rotation as it produces more easily interpretable results. Initial analysis suggests (by assessing the results of the KMO and Bartlett results³⁷) that the factors are not correlated in this study. Orthogonal rotation is therefore the chosen rotation method.

4.5.1 Orthogonal Rotation Methods

Three main orthogonal techniques can be applied to uncorrelated factors (Tabachnick *et al.* 2001). According to Pett *et al.* (2003) these three approaches have slightly different methods. The three approaches are varimax rotation, quartimax rotation and equimax rotation (Tabachnick *et al.* 2001; Pett *et al.* 2003; Hair *et al.* 2006).

Varimax Rotation

Most computer packages use varimax rotation. Tabachnick *et al.* (2001) deems it the most widely used. Varimax rotation maximises the variance of the factor loadings while also maximising the spread in loadings. It leads to easier interpretations clearly identifying which variables correlate with which factor (Tabachnick *et al.* 2001; Pett *et al.* 2003). Varimax rotation is used when the factors extracted are not correlated (Kline 1994; Nunnally *et al.* 1994). Kline (1994) notes that varimax rotation should be applied when a simple structure is required i.e produce loadings that are near zero, or very

³⁷ See Appendix A for the detailed results of the KMO and Bartlett tests in this research.

high. Any negative signs in the factor loading columns are removed because within the varimax method, squared loadings rather than actual loadings are applied (Nunnally 1978, Kline 1994). The squared loadings are then standardised by dividing them by the sum of the squares in that row to ensure all variables to be factor analysed have the same weighting (Kline 1994).

One of the advantages of using a varimax rotation is its ease of interpretation. It provides data where items correlate strongly with a certain factor (Pett *et al.* 2003). The technique has disadvantages however. Varimax rotation can divide the variances of the main factors among the lesser factors. This reduces the ability to identify an overall factor (Pett *et al.* 2003). If a researcher expects to find one overall factor then a varimax rotation is not advisable. Another disadvantage is that if too many factors are included, the lesser factors can be over-inflated as the variance split from major factors is distributed to less important ones (Comrey *et al.* 1992). Tables 4.5 and 4.6 illustrate a sample rotated and un-rotated matrix output in SPSS.

Table 4.5 Un-rotated Component Matrix		
Motivations	Factor Component	
	1	2
A safe and secure location	.608	-.249
Ease of getting there	.707	-.123
Interesting History	.475	.700
Quality of scenery	.569	.426
Recommendation from friends	.565	.377
Availability of high quality accommodation	.745	-.027
Good value for money	.616	-.393
Nice weather	.566	-.507
<i>Extraction Method: Principal Component Analysis, 2 components extracted</i>		

Table 4.6 Rotated Component Matrix using Varimax Rotation		
Motivations	Factor Component	
	1	2
A safe and secure location	.634	.175
Ease of getting there	.635	.335
Interesting History	-.052	.845
Quality of scenery	.189	.685
Recommendation from friends	.217	.643
Availability of high quality accommodation	.606	.434
Good value for money	.728	.065
Nice weather	.758	-.055
<i>Extraction Method: Principal Component Analysis; Rotation Method: Varimax</i>		

Table 4.5, the un-rotated matrix, does not produce easily interpretable results. The items do not load readily onto any one factor. In particular, the factor loadings attached to the variable items: interesting history, quality of scenery and recommendation from friends are unclear. Applying varimax rotation (Table 4.6) the variance of the factor loadings and the spread in loadings are maximised. Each factor now has a large or small factor loading on each item (factor loadings lie as close as possible to -1, 0, or +1). All variables are more interpretable and highly correlate with one factor only. Despite disadvantages associated with rotation, rotation improves and simplifies the factor pattern. Labelling can now be applied to each factor.

Quartimax Rotation

Quartimax rotation is the second orthogonal rotation technique that can be used when there is no correlation. With quartimax rotation, the variables are rotated so they yield a high factor loading on only one factor, and low on all the others (Pett *et al.* 2003). It minimises the number of factors used to explain each item. Quartimax carries out the same procedure as the Varimax method as it simplifies variables through increasing the spread of the loadings within variables and across factors (Tabachnick *et al.* 2001). It is a much less used orthogonal rotation method (Pett *et al.* 2003). Varimax rotation is preferred over quartimax rotation as in factor analysis researchers

are usually more interested in factors than variables (Tabachnick *et al.* 2001).

Equimax rotation

Equimax rotation is a combination of quartimax rotation and varimax rotation. It tries to simplify not only the factors but also the variables. The factors are the columns and the variables are the rows. However, it should only be used when the numbers of factors have been identified clearly in advance (Tabachnick *et al.* 2001).

Rotation method applied

Varimax rotation is used in this study for two reasons: it is the most common of the orthogonal rotation methods and independent factors are desired to ensure no overlapping so these same factors can be carried through to the next stage of the methodological process, cluster analysis.

Factor loading values

After factor rotation, the ideal outcome would be that each variable would load strongly on one single factor. Unfortunately, this is not always the case. Sometimes variables will show weak loadings on all factors or strong loadings on a number of factors (Pett *et al.* 2003). Therefore, before interpreting the factors, it is necessary to examine the factor loading values to determine which variables load on which factor. A criterion assesses the significance of the factor loadings (Hair *et al.* 2006). Values of 0.5 or above are particularly significant, 0.4 or above are important and values of 0.3 or above meet the minimal level. An item with a factor loading of at least 0.4 on its primary factor is applied here. In other words, if a factor loading is above a certain level, it is particularly significant and can be retained; otherwise, it will not load onto the factor. If an item does not load on any factor, it should be analysed on its own. A factor must also have at least three items to load on that factor to justify retaining the factor (Hair *et al.* 1995). Applying the recommendations of Nunnally *et al.* (1994) and Hair *et*

al. (1995), items that do not load significantly on any factor are removed. Factor solutions are labelled depending on which item loads on a factor (if any). Items with higher loadings have more emphasis. A label is then given to the extracted factor representing the underlying dimension of a given factor.

4.6 Conclusion

This chapter reviewed the methods and steps involved in carrying out the first stage of the segmentation process: factor analysis. The chapter explains the factor analytical process, and outlines which methods are applied to this study's dataset. The chapter explains how this research uses exploratory factor analysis. Principal component analysis is used to extract factors. Three retention methods are used in this work; the percentage of variance explained, eigenvalues greater than one, and inspection of Scree plots, while the orthogonal varimax rotation method interprets the factors.

The chapter explains that factor analysis is carried out to make the dataset more user-friendly and manageable for ease of interpretation of results. The rationale for using factor analysis is to reduce the number of original variables to a smaller number, so the data can be interpreted more clearly. The chapter explains how segmentation using factor analysis can help a better understanding of the North American coach tourist market to Ireland. The chapter answers in part the second research task listed in Chapter one; "Apply the techniques of factor and cluster analysis to identify underlying dimensions (factors) in the variables and highlight specific sub-groups within the North American coach tourist market". The chapter fulfils this by outlining how factor analysis derives independent factors. The factor process ensures no overlapping in terms of what the factors are contributing. These factors³⁸ are then carried through to the next stage of the methodological process: cluster analysis. The second research task can then

³⁸ The actual derivation of the factors, are outlined in chapter 7.

be answered in full, and the final research aim can be fulfilled: “Develop a comprehensive segmentation model specifically targeting the travel behaviour and psychographics of the North American coach tourist in Ireland”

CHAPTER FIVE: METHODOLOGY 2: CLUSTER ANALYSIS

5. Introduction

This chapter describes the concept of cluster analysis. The chapter explains how this second multivariate technique completes task three listed in Chapter one: “Apply the technique of cluster analysis to highlight specific sub-groups within the North American coach tourist market”. It answers whether segmentation using cluster analysis can help a better understanding of the North American coach tourist market to Ireland. The aim of this chapter is to clarify how the application of cluster analysis can identify and profile the relationship among sub groups based on some pre-defined variables. The North American coach tourist’s travel behaviours and psychographics are cluster analysed here. The overall aim of the thesis can thus be fulfilled: “Develop a comprehensive segmentation model of the North American coach tourist in Ireland.”

Cluster analysis is a group of multivariate techniques with a primary purpose to group objects based on the characteristics they possess (Hair et al. 2006). Cluster analysis is considered a good exploratory data analysis technique when the sample is heterogeneous and when the numbers and members of the groups are unknown (Hair et al. 2006; Chan et al. 2006). Cluster analysis is applied when there is little *a priori*³⁹ knowledge about the number of categories formed and who constitutes these categories (Churchill 1995; Hair et al. 1995). As discussed in chapter three, *posteriori* segmentation is mainly used in research to classify tourists into clusters based on their similarities. Cluster analysis enables a better understanding of an industry. Cluster analysis is therefore an essential procedure to fulfil the segmentation of the North American coach market to Ireland. The chapter is divided into subsections: Section 5.1 defines cluster analysis, along with a brief literature review. Section 5.2 describes the steps involved

³⁹ See chapter three for more on a priori segmentation.

in carrying out cluster analysis. Section 5.3 details the different types of clustering procedures. Section 5.4 highlights the relevance of cluster analysis to this work, and finally section 5.5 concludes the chapter.

5.1 Cluster Analysis

Tryon first used cluster analysis in 1939. Cluster analysis, otherwise known as Q analysis, numerical taxonomy, classification analysis, or typology is used in variety of disciplines, including psychology, biology, sociology, economics, engineering, and business (Hair et al. 1995). The common dimension for all these disciplines is to use cluster analysis as a method of classification according to natural relationships (Hair et al. 1992; Punj and Stewart 1983; Everitt 1980; Green and Carroll 1978). Cluster analysis is an interdependence technique, making no distinction between dependent and independent variables (Chandra and Menezes 2001). The entire set of interdependent relationships is examined. Cluster analysis is the opposite to factor analysis. The latter reduces variables by grouping them into a smaller set of factors. Cluster analysis reduces the number of observations (or cases) by grouping them into a smaller set of clusters. Without cluster analysis, the observations collected in the questionnaire are meaningless unless classified into manageable groups (Hair 1997).

Chapter four detailed how factor analysis grouped variables according to shared variance. Factor analysis reduced the data into a concise form. Factor analysis produces understandable descriptions of factors/dimensions with a minimum loss of information. Rather than trying to group variables, cluster analysis groups' cases. Cluster analysis uses the factors derived from factor analysis and classifies a large number of observations into manageable groups. In other words, cluster analysis uses a number of different algorithms and methods to group similar objects into categories or clusters. The items, individuals, or objects placed into the clusters are called cases. Cluster analysis simply groups these cases. Rather than forming groups of variables based on responses to these variables, cluster analysis identifies and classifies objects, individuals, or variables based on the

similarity of responses/characteristics. Cluster analysis is therefore a statistical technique applied to data, exhibiting “natural” groupings, and “starts with a data set containing information about a sample of entities and attempts to reorganise these entities into relatively homogeneous groups” (Aldenderfer and Blashfield 1984:7).

Cluster analysis partitions data or groups respondents into meaningful subgroups when the number of subgroups and other information about their composition is unknown. The clustering of objects should exhibit high internal (within-cluster) homogeneity and high external (between-cluster) heterogeneity (Hair et al. 2006). Tourists within a cluster are therefore very similar to each other but there are substantial differences when comparisons are made with tourists from other clusters. *Posteriori* segmentation⁴⁰ is used as segments are produced analytically. According to Chandra and Menezes (2001), good classification of clusters is achieved when subjects within clusters are close together and different clusters are far apart. Cluster analysis represents a convenient method for organising a large set of data so that the retrieval of information is more efficient (Everitt 1993).

5.2 Literature Review

Numerous tourism studies use cluster analysis. A review of the literature reveals that the method develops a wide variety of different types of tourism segments to gain a better understanding of the composition of the tourism population (Chandra and Menezes 2001). For example, Lang et al. (1993) and Morrison et al. (1995) clustered tourists by tourist activity or participation. Fodness (1990) and Roehl et al. (1992) clustered according to tourist perceptions. Benefits sought (travel desires) was the cluster grouping used by Loker and Perdue (1992), Calantone, and Johar (1984). Hull et al. (1992), used experience patterns. Clustering tourists by motivation was carried out by Loker and Murphy (1996) Chang and Chang (2006); Molera and Albaladejo (2006); Andreu et al. (2005); Prebensen (2005); Sirakaya

⁴⁰ See more on this in chapter three.

(2003); McKercher and Du Cros (2003), Pearce and Lee (2005); Gustafson (2002); Gursoy and Gavcar (2003); Collins and Tisdell (2002); Wickens (2002) and Kim and Jogaratnam (2002). Fodness in 1998, categorised tourists using information search strategies and Spencer and Holecek (2006); O' Driscoll (1985); Hank (1992); Spotts and Moloney (1993) and Bonn, Furr and Uysal (1992) clustered tourists based on trip characteristics. Keng and Li Cheng (1999) and Mo et al. (1994) used cluster analysis to determine tourist role typologies, while Konstantinos et al. (2008), used tourist role typologies to gain a better understanding of tourists' satisfaction.

The application of cluster analysis is therefore popular within the general tourism realm. However, research applying cluster analysis to the North American coach tourist to Ireland does not exist. This research remedies this gap in literature.

5.3 Steps in cluster analysis

There are four steps to cluster analysis. The first step partitions the data. The second step interprets the data. The third validates the clusters and finally the fourth step profiles the clusters. This section explains each of these stages creates final cluster segments.

5.3.1 Partitioning

Partitioning divides the dataset. Partitioning establishes how similarity is measured and how many clusters are developed. Partitioning places the most similar observations into groups, i.e. partitioning explains what defines the groups. Five questions are examined to explain this process. The first two are as follows:

1. What are the variables of choice?
2. Are outliers detected? And if so, should the outliers be deleted?

5.3.1.1 Choice of Variables

The choice of variables is an important stage in cluster analysis, as the clusters derived must reflect the theoretical/conceptual and practical considerations of the study (Everitt 1980). According to Hair (1991), cluster analysis uses a rationale for selecting variables. The rationale for variable selection must represent the objects to be cluster analysed and correspond with the aims of cluster analysis. The variables chosen are the factors derived from applying factor analysis in chapter four; push and pull motivations, activities sought, travel constraints, life focus over the next five to ten years and character type.

To ensure the selection of variables lie within context of the overall research question, individuals displaying similar characteristics in terms of the extracted factor variables⁴¹ are merged (Hair 1997; Aldenderfer and Blashfield 1985). This clustering process helps complete the study is overarching research question: to develop a complete segmentation model of the North American coach market to Ireland based on the travel behaviour and psychographic behaviour of respondents.

5.3.1.2 Outliers

The second question in the partitioning process relates to outliers. An outlier is an observation that lies an abnormal distance from other values in a random sample from a population (Hair 1992). Outliers are data records that do not fit well into any cluster (SPSS 2007) and are atypical with respect to the other values in the dataset (Romesburg 2004). Milligan (1980) argues that the inclusion of outliers affects cluster analysis dramatically. Hair et al. (2006) cited outliers represent either; (1) truly aberrant observations that are not representative of the population; (2) representative observations of small or insignificant segments within the population; or (3) an under sampling of actual group(s) in the population that causes poor representation of the group(s) in the sample.

⁴¹ Refer to chapter four for these factor scores

In the first case, the outliers distort the structure and the developed clusters falsely represent the actual population structure. In the second case, the outlier is deleted so resulting clusters are more accurate in representing the relevant segments in the populations, and in the third case, the outliers under represent the sample. Outliers are detected before the formation of cluster solutions. Outliers alter the true structure and make the derived clusters unrepresentative of the true population (Hair et al. 1998). Screening for outliers is necessary.

The inadvertent inclusion of only one or two irrelevant variables increases the incidence of outliers and invariably affects the results (Milligan 1980). One of the pitfalls of cluster analysis is that it is very sensitive to the inclusion of, and inability to differentiate such irrelevant variables. Three methods identify outliers in this study.

1. Examination of the clustering agglomerative schedule.
2. Inspection of the box plots
3. Determining the Mahalanobis distance

These three methods used to identify outliers are explained in the following three sections.

5.3.1.2.1 Detection of Outliers: Agglomerative schedule

The agglomerative schedule is used to identify potential outliers by examining the final stage (a stage is when one or more observations join to form a cluster) observations that merge late in the hierarchical clustering process⁴². The variables that merge late are outliers. Table 5.1 presents an example of an agglomerative schedule showing the last stages of the clustering process.

⁴² This process is explained later in Section 5.2.1.5.

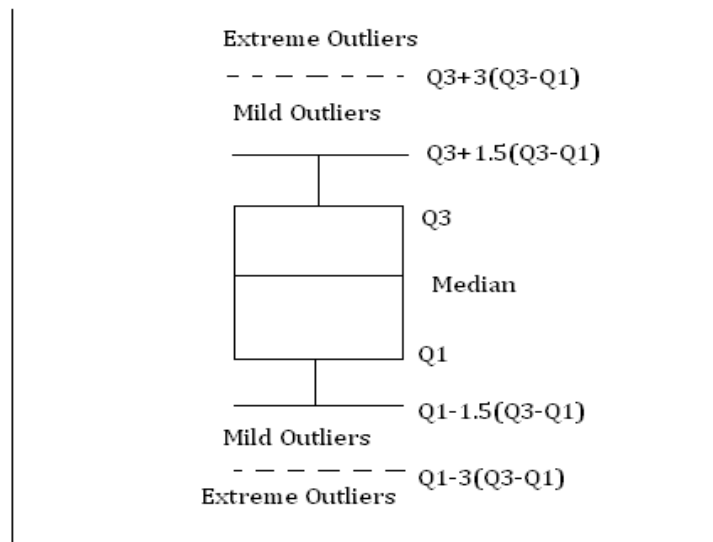
Table 5.1 Sample Agglomerative Schedule						
Stage ^a	Cluster Combined ^b		Coefficients ^c	Stage Cluster First Appears ^d		Next Stage ^e
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
477	164	170	.063	0	401	482
478	2	9	.065	475	463	479
479	1	2	.108	472	478	480
480	1	44	.109	479	474	483
481	3	43	.142	470	476	484
482	53	164	.207	0	477	485
483	1	5	.207	480	473	484
484	1	3	.234	483	481	485
485	1	53	.335	484	482	0
a: Defines the step in the clustering process where the two most similar clusters are combined b: Gives information about which two clusters are combined at each stage c :Measures the increase in heterogeneity (reduction in within cluster similarity) that occurs when two clusters are combined d: Identifies the previous stage at which each cluster being combined was involved e: Denotes the next stage at which the new cluster is combined with another cluster						

In the initial agglomerative schedule, there are n-1 stages, where n is the number of cases included in the cluster analysis. Table 5.1 presents five key pieces of information in the agglomerative schedule. Firstly, the schedule shows the step in the clustering process when the two most similar clusters are combined. Information regarding the stages when clusters combine is also presented. Thirdly, the agglomeration coefficient (the increase in heterogeneity when two clusters combine) is displayed, as well as, the previous stage where each cluster first appears. Finally, the agglomerative schedule shows the point where a new cluster combines with another cluster. The zero case values in the schedule indicate the cluster is a single cluster member (i.e. cases 477, 482). The zero indicates the observation did not combine with any other observation before that stage. If zero values occur at a later stage (usually within the last 10 stages), this case is a possible outlier. Joining late implies the case is unusually different.

5.3.1.2.2 Inspection of Box plots

Tukey (1977) introduced the boxplot. A box plot is a plot that displays numerical data indicating first quartile, median and third quartile ranges. The box contains the middle 50 per cent of the values (the interquartile range), as well as the median (a solid line within the box). Tukey (1970) marked points of mild and extreme outliers. Extreme outliers lie outside of $Q1 - 3(Q3 - Q1)$ and $Q3 + 3(Q3 - Q1)$. These extreme values display the highest and the lowest values recorded for that variable. Figure 5.1 highlights how to detect these outliers.

Figure 5.1 Boxplot to Detect Outliers



5.3.1.2.3 Mahalanobis Distance

The Mahalanobis distance (D2) also detects outliers. The Mahalanobis distance is a multivariate measure depicting the distance of each observation from the sample mean across all clustering variables (Hair 1995). The formula for the Mahalanobis distance is:

$$d_{ij} = (X_i - X_j)' \Sigma^{-1} (X_i - X_j)$$

(Equation 5.1)

Where Σ is the pooled within-groups variance-covariance matrix, and X_i and X_j are vectors of the values of the clustering variables for cases i and j . This

distance incorporates correlations among variables by inclusion of the variance-covariance matrix. Higher D2 values represent observations further removed from the general distribution of observations. The method detects suspect cases that may be different from the average observations in the dataset by measuring how atypical an observation is. Extreme values indicate the cases are distinct from the rest. However, the method has a drawback. The Mahalanobis distance only provides an overall assessment. The method provides no insight as to which variables lead to a high D2 value.

In this work, all three techniques (i.e. examining the clustering agglomerative schedule; inspecting the box plots; and determining the mahalanobis distance) are collectively used to identify outliers. This ensures the benefits from each method are maximised and any drawbacks are minimised. Common case numbers are noted and assessed. With extreme caution, outliers deemed not representative of the population are deleted. To ensure the dataset is not distorted throughout the process of selecting variables and deleting outliers while also ensuring the variables reflect the theoretical framework of the overall study, the researcher complied with the work of Everitt (1980).

At this point of the partitioning stage, the variables have been chosen and outliers have been detected and removed. The clustering variables must now be standardised.

5.3.1.3 Standardisation of Variables

Standardising scores ensures that one variable does not dominate the cluster solution (Hair et al. 2006). If a dataset is not standardised issues might occur that cause problems with the consistencies between clusters. Standardising removes large effects due to arbitrary differences in the standard deviation or means of the variables. Without standardising, the ordering of similarities can change. This can affect the final solution.

Standardisation is required when the variability in the variables is caused by the scaling unit, and not something, that should be allowed to affect cluster differences (Borgen and Barnett 1987). In other words, standardisation is required if the variables have been measured on different scales. Clustering variables should therefore be standardised whenever possible (Baeza-Yates 1992). The most common form of standardization is the Z-scores standardisation. This method eliminates the effects of scale differences across variables. The process converts each raw data score into a standardised value with a mean of 0 and a standard deviation of 1. Standard Z scores can be obtained by subtracting the mean from the score and then dividing by the standard deviation. Standardising gives equal weight to each of the clustering variable scores so that the analysis will no longer be biased to scores that are of a larger magnitude. This work uses Z score standardisation to eliminate the bias introduced by the differences in the scales of the variables used in the analysis (Hair et al. 2009).

The first two questions explaining the partitioning process are now answered. According to Hair et al. (2006) three further questions need to be addressed to complete the stage:

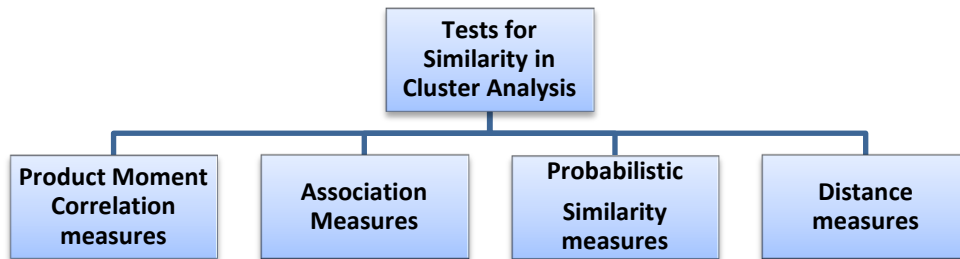
3. How should object similarity be measured?;
4. What procedure (clustering algorithm) should be used to place similar objects into groups or clusters and;
5. How many clusters should be formed?

5.2.1.4 Similarity measures

The third question in the partitioning process assesses similarity measures. Hair (1995) outlines the method of similarity, or inter-object similarity used to form the clusters is an essential aspect of cluster analysis as it measures the correspondence, or resemblance between objects to be clustered. By its definition, cluster analysis groups objects based on the similarity of responses to variables. A measure of closeness or correspondence is therefore required to form clusters from complex data sets. In factor

analysis, correlation matrices are used to group variables into factors. In cluster analysis similar characteristics are defined first, where any variable can be compared to any other variable. The method then combines all similar variables into clusters. Similarity in cluster analysis can be measured in four ways as illustrated in Figure 5.2.

Figure 5.2: Tests for Similarity in Cluster Analysis



Source: Sneath and Sokal (1973) in Aldenderfer and Blashfield (1984)

As per Figure 5.2, the four ways to test similarity in cluster analysis are; product moment correlation measures, association measures, probabilistic similarity measures and distance measures. A researcher’s subjectivity is involved when choosing similarity measures. However, as with variable selection, the choice of similarity should be embedded within the design of the research, which in turn is determined by the theoretical objective of the research (Aldenderfer and Blashfield 1984). Each of the four measures has advantages and disadvantages that need to be considered prior to usage. All four have been used extensively by taxonomists and within the biological sciences. Only correlation measures and distance measures have had widespread use within the social science arena however. Details of each measure are outlined below.

5.2.1.4.1 Correlation measures

Correlation measures are also known as angular measures due to their geometric interpretation (Aldenderfer and Blashfield 1984). They measure the correlation coefficients between a pair of cases measured on the cluster variables. Correlation measures are used in quantitative classification to establish association between cases. This method is used the most often

within the social sciences. The most frequently used correlation is the product moment correlation coefficient as suggested by Karl Pearson (denoted r for Pearson's coefficient). The coefficient r is defined as:

$$r = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2} \sqrt{\sum_{i=1}^n (Y_i - \bar{Y})^2}}$$

(Equation 5.2)

Where:

X_i and Y_i are the values for variables X and Y.

\bar{X} Is the mean of all values of the X variables.

\bar{Y} Is the mean of all values of the X variables.

The coefficient r ranges from -1 to +1 whereby, -1 indicates a perfect negative correlation and +1 indicates a perfect positive correlation. A zero value indicates no relationship between the cases. The correlation coefficient is often described as a shape measure as it is insensitive to differences in the magnitudes of the variables. As the product-moment correlation coefficient is sensitive only to shape, two profiles with a correlation of +1 may be positively correlated but may not be identical (i.e. the profiles of each, do not pass through the same points). This is a major drawback. Correlation coefficients ignore information about the elevation of scores. According to Hair et al., the emphasis of correlation coefficients is "on the magnitudes of the objects, not the patterns of values" (1992:484). Although correlation measures inform the researcher whether the patterns of responses between people are similar, it does not tell us anything about the distance between profiles. Correlation coefficients therefore miss important information. The measures can give rise to misleading results, as it does not make sense to calculate the mean value across different variable types since the definition of a mean is unclear (Alderderfer and Blashfield 1984). Despite its popularity within the social science realm, for the above reasons it is not used as a measure of similarity in this research. The second test for measuring similarity, association measures, is outlined below.

5.2.1.4.2 Association measures

Association measures of similarity compare objects whose characteristics are measured only in non-metric terms (nominal or ordinal measurement). Association measures assess the degree of agreement between cases described by binary variables (i.e. "yes/no" variables) or matches between each pair of respondents. In a 2 x 2-association table for example, 1 refers to the presence of a variable and 0 as its absence. The coefficient table can mix data types, exhibit metric qualities, is flexible and can be easily modified to include negative matches in the estimation of similarity by modifying the binary weighting system. However, Sneath and Sokal (1973) highlighted the measure cannot be easily transformed into a metric. In addition, the coefficient has been used little in the social science arena, and computer programs such as cluster software packages fail or have limited support for the measure. Consequently, association measures are not used in this work.

5.2.1.4.3 Probabilistic Similarity Coefficient

Numerical taxonomists and ecologists most commonly use the probabilistic similarity coefficient. It differs to other measures of similarity, as similarity is not actually calculated. The measure uses raw data directly and cases are combined and evaluated, merging those providing the least information. It can only be used with binary data. Given these characteristics and its absence in the social science field, no workable schemes have been established to work with it. It is therefore not used in this research. Distance measures are another method used to test for similarity in cluster analysis.

5.2.1.4.4 Distance measures

Distance measures are the most commonly used similarity measure within cluster analysis (Aldenderfer and Blashfield 1985). Distance measures calculate similarity as the proximity of observations to one another, across

the cluster variables. Two cases are deemed identical if each one is described with the same magnitude i.e zero. Several distance measures are available. The most common is the Euclidean distance and squared Euclidean distance (Saunders 1980) and they are used in this analysis. Hair et al. (1992) describes the Euclidean distance as “a measure of the length of a straight line drawn between two objects” (1992:266).

The Euclidean distance is the most commonly used distance measure. It can plot the observations in a scatter plot and measure the geometric distance between two objects. The distance (straight-line) is expressed in terms of the following equation:

$$d_{ij} = \sqrt{\sum_{k=1}^n (x_{ik} - x_{jk})^2}$$

(Equation 5.3)

Where

d_{ij} is the distance between the two cases i and j ,

x_{ik} is the value of the k th variables for the i th case.

x_{ij} is the value of the k th variables for the j th case.

Equation 5.3 indicates the distance between the cases is calculated by taking their scores on a variable k , and calculating the difference. For some variables, one respondent may have a bigger score than another respondent, and vice versa. Given that differences may be positive or negative, to avoid the issue of numbers cancelling out, each difference is squared. Adding all the variables squared differences, the square root is attained, reverting to the original units of measurement. The Euclidean distance is now a ‘squared’ Euclidean distance. The ‘squared’ Euclidean distance avoids the use of a square root. Consequently, the squared Euclidean distance can place progressively greater weight on objects that are further apart. The squared Euclidean distance simply measures the distance between two variables and objects, that are positioned close to each other, the smaller the distance the more similar the cases.

The Euclidean distance is inaccurate however when cases are compared across variables with different variances (more spread out). Distance measures are sensitive to differing scales or magnitudes among variables. Variables with larger dispersions (i.e standard deviation) create a larger impact on the final similarity value (Hair et al. 2006). Standardisation remedies varying magnitudes.

The distance measure is the similarity measure used in this study. The squared Euclidean distance is chosen as squared values place progressively greater weight on cases that are further apart. Outliers in this instance are more easily noticed.

The fourth question to fulfil the partitioning process relates to the clustering procedure (algorithm) used to place similar objects into clusters. The next section outlines how this clustering algorithm is selected.

5.2.1.5 Selection of a Clustering Algorithm

Selecting the appropriate method to place similar cases into clusters involves selecting the correct clustering algorithm. An algorithm assembles observations into groups that prior misconceptions and ignorance would otherwise preclude (Anderberg 1973). There are several ways to group cases based on their similarity. Two common clustering algorithms are used in cluster analysis: hierarchical (tree based method – divisive) and non-hierarchical (agglomerative). Both methods are employed here to achieve the benefits of both and improve the overall reliability of the results (Milligan 1980). The first clustering algorithm, the hierarchical method, is outlined below.

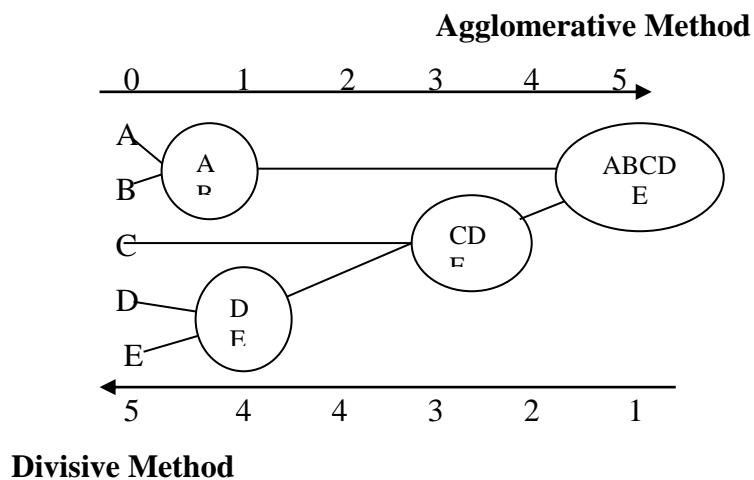
5.2.1.5.1 Hierarchical Procedures

Hierarchical procedures are the most frequently used in cluster analysis (Romesburg 2004). They are also the most widely used within the biological sciences. Hierarchical methods use a stepwise procedure to

produce a sequence of partitions that correspond to a different number of clusters. Hierarchical procedures provide information enabling the analyst to decide on the number of clusters based on the output. This is done by examining tabular or graphical output to identify gaps that define clusters.

There are two types of hierarchical procedures: agglomerative and divisive. The former indicates the groups are merged, and the latter indicates one or more groups are split at each stage. Agglomerative procedures begin with n entities i.e. all cases are in a separate cluster. Subsequent cases are sequentially merged at successive levels until all cases are in one cluster. Divisive methods work in the opposite direction. In divisive methods, all cases are in a single cluster at the outset, and the process continues until each dissimilar case splits off and is in its own separate cluster. Figure 5.3 illustrates the procedures.

Figure 5.3 Illustrations of Agglomerative and Divisive Procedures



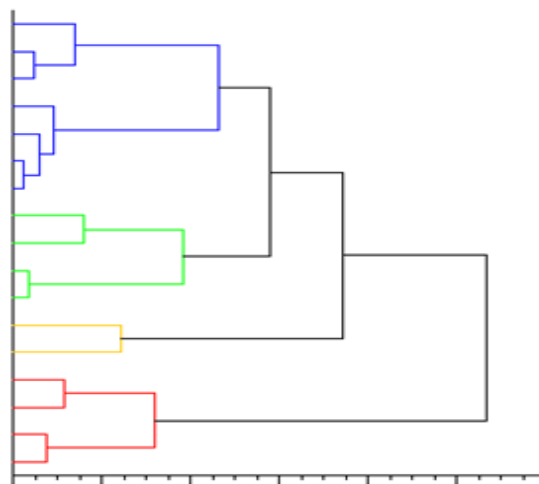
On the left hand side of Figure 5.3, individual cases, A, B, C, D, E are presented. These single/individual cases are the divisive method. To the right of the figure, the cases, A, B, C, D, E are merged at successive points until they are in one cluster (point 5). This is labelled the agglomerative method. The agglomerative method is used in this research for three reasons. Firstly, Aldenderfer and Blashfield (1978, 1984) found two-thirds of all published articles used the hierarchical agglomerative method. Secondly, the divisive method is deemed “not practical unless the number of

possible splits can somehow be restricted” (Fraley and Raftery 1998:579). Finally, most computer packages (including the package of choice here-SPSS) only use agglomerative methods. For these reasons, the agglomerative method is popular and is chosen in this work.

Hierarchical Agglomerative Methods

Most procedures in hierarchical clustering are known as agglomerative methods. In agglomerative procedures, each observation is in its own separate cluster. In a stepwise fashion, subsequent stages combine individual clusters that are close together creating a new aggregate cluster. The procedure continues until all objects are amalgamated into one single cluster. A hierarchy or tree-like structure called a dendrogram is formed highlighting the cases that constitute these clusters. In this method, it is possible to isolate clusters of cases with high similarity since the agglomerative schedule presents the agglomerative coefficient. This coefficient provides the value of the distance (similarity) used to form the cluster. Small coefficients imply similar clusters are joining, and large coefficients imply dissimilar clusters are joining. An example of a dendrogram is illustrated in Figure 5.4. The figure shows four different clusters (blue, green, yellow, and red).

Figure 5.4 Sample Dendrogram



To define the similarity/dissimilarity between clusters within hierarchical agglomerative methods, SPSS 17 provides seven alternative methods (the

names of the methods vary, and/or have been changed overtime depending on the statistical SPSS version used). The methods include; single linkage (otherwise known as nearest neighbour), complete linkage (or furthest neighbour), average linkage (otherwise known as between groups), within groups, centroid method, median and Ward's method (or Minimum variance).

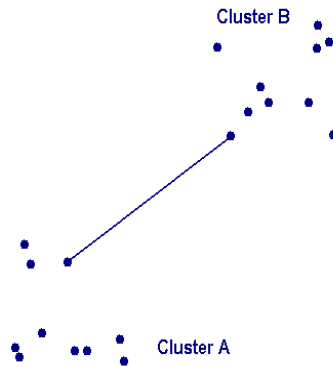
Although there are a number of different methods available to determine the mathematical procedures used to calculate the distance between clusters, the methods satisfy the same formula. In other words, the methods can be described using the same algorithm (Lance and Williams (1967); Wishart (1969a)). Almost all the methods are variations of three popular approaches: linkage (single, complete, or average linkage), centroid and Ward's (minimum variance) (Lorr 1983). Although each method has a different way of grouping observations, the basic procedure is the same. The closest are merged to form a new cluster, and the next closest are paired forming yet another new cluster. This continues until all cases are in one cluster. A summary describing the different agglomerative algorithms is given below.

Single linkage (otherwise known as Nearest neighbour)

The single linkage or nearest neighbour method was introduced by Sneath (1957) and McQuitty (1957) and is the easiest hierarchical agglomerative method to understand. It is based on a minimum distance between clusters. Single linkage can be characterised as SAHN: sequential, agglomerative, hierarchical and non-overlapping (Sneath and Sokal 1973). Initially, each case begins as its own cluster. The method then seeks the two most similar entities (closest in distance) in the matrix and forms a new larger cluster. The cases with the highest similarity are merged to form the nucleus of this larger cluster. The next most similar case (the next shortest distance or the next strongest link) for cluster membership can then join this existing cluster, and a completely new cluster is formed. The procedure is called single linkage as at each stage, the clusters are merged by the shortest link

between them. This single link is the only thing required for them to merge until all cases are in the one cluster. An illustration of this method can be seen in Figure 5.5.

Figure 5.5 Example of Single Linkage (Nearest-neighbour) Method

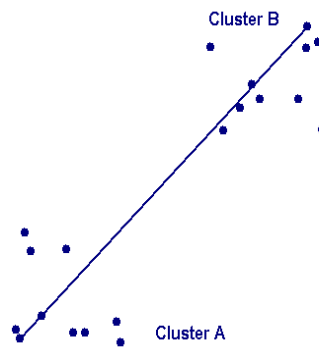


However, the method is problematic when clusters are poorly defined (it does not take account of the structure of the cluster). The method can therefore suffer from a chaining effect (Nagy 1968). This chaining effect produces clusters that are messy or elongated with highly diverse individuals at ends of the cluster.

Complete linkage (or furthest neighbour)

The complete linkage method (Sorensen 1948) otherwise known as the furthest neighbour technique, is a variation of single linkage. In complete linkage, the distance between two clusters is defined as the distance between the two furthest points. The method seeks the two most dissimilar entities in the matrix i.e. it places the two cases that are the furthest in distance into one cluster. Figure 5.6 illustrates the method.

Figure 5.6 Example of Complete linkage (furthest neighbour) Method

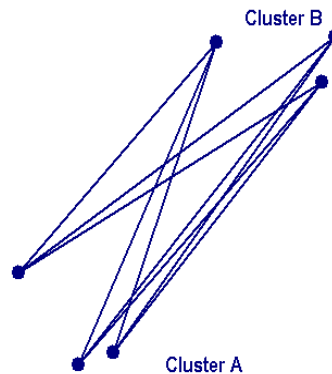


In this method, two clusters whose merger has the smallest diameter (minimum similarity) link with two clusters with the maximum distance. The complete linkage method produces tightly bound or compact clusters reflecting the similarity of the least similar pair of cases (Baeza-Yates 1992). The method performs well in cases when the objects form naturally distinct groups (Hair 1992). However, the method is not appropriate if the clusters are elongated or have a "chain" type nature. Although the clusters obtained by the complete linkage are more compact, like the single-link algorithm, it also does not take account of the structure of the cluster.

Average linkage method

The average linkage method (Rencher 2002) is otherwise known as the between-groups linkage or UPGMA (un-weighted pair-group method using arithmetic averages). This method highlights dissimilarity between clusters by getting the average of all the possible distances between the cases in the clusters. In other words, it calculates the minimum distance between individuals/objects and the cluster condition. Figure 5.7 illustrates the method.

Figure 5.7 Example of Average linkage (between groups) Method



Unlike single and complete linkage, it does not depend on extreme values. Partitioning is based on all members of the clusters. The method tends to combine clusters with small variances and in general discriminates towards the development of clusters with roughly the same variance (Aldenderfer and Blashfield 1984). The linkage function specifying the distance between two clusters is computed as the average distance between objects from the first cluster, and objects from the second cluster. It differs from the other linkage methods as it uses information about all pairs of distances, not just the nearest or the furthest. To complete cluster analysis, it is preferred to the single and complete linkage methods (Hair et al. 1992). It is also deemed a robust method as it is resistant to errors/outliers in the dataset. For these reasons, it is used to develop clusters in this research.

Within-groups linkage

The within-groups linkage method is a relatively new method, first appearing in SPSS Version 15. The method highlights the dissimilarity between clusters by combining clusters whereby the average distance calculated between all possible cases in the resulting cluster, is as small as possible. The distance between two clusters is therefore the average of the distances between all possible pairs of cases in the resulting cluster.

Centroid Clustering Method

In the centroid clustering method the dissimilarity between clusters is represented by the distance (squared Euclidean or simple Euclidean)

between the centroid for the cases in one cluster, and the centroid for the cases in another cluster (Renccher 2002). Cluster centroids are the average values of the observations on the variables. The distance is not equivalent to the average of the distances used in the average linkage method however. Rather, every time individuals are grouped, a new centroid is computed and centroids migrate or change as cluster mergers take place. Of all the hierarchical algorithms, this method is the least affected by outliers (Hair et al. 1992). However, this method can produce messy and confusing results as the distance where clusters combine can actually decrease from one-step to the next. This is an undesirable property as clusters merged at later stages are more dissimilar than those merged at early stages.

Median Clustering

In median clustering methods, the dissimilarity between clusters is represented by the distance between the median for the cases in one cluster, and the median for the cases in another cluster. To combine the two clusters, they are weighted equally in the computation of the centroid, regardless of their number of cases. When they are merged, the method allows small groups to have an equal effect on the characterization of larger clusters

Ward's Method

Ward's method (Ward 1963) is distinct from all the other methods as it uses an analysis of variance approach to evaluate the distances between clusters. The aim of Ward's method is to join cases into clusters so the variance within a cluster is minimised. The method attempts to minimize the sum of squares (SS) of any two clusters that can be formed at each step. The dissimilarity between clusters in this method is represented by the "loss of information" from joining the two clusters. This loss of information is measured by the increase in the error sum of squares. The sum of squares is the sum of squared deviations of each case from the centroid of the cluster. The error sum of squares is then the total of these for all clusters. When selecting clusters to join, the two clusters (among all possible combinations)

that have the minimum increase in error sum of squares are selected. The method is regarded as very efficient. However, as the method tends to combine clusters with a small number of observations creating clusters of small size, the method is best suited for studies where the number of observations in each cluster is expected to be approximately equal. The method is also best suited for studies where there are no outliers, as the solutions it provides tend to be heavily distorted by outliers (Milligan 1980). For these reasons, this method is not used in this current work.

Summary: Hierarchical Methods

Hierarchical methods are useful in determining similarities, but it does have flaws. One problem is that the method can usually give very different results. This occurs due to the different criterion for merging clusters (including cases). Another issue is that the algorithms make only one pass through a data set, so poor cluster assignments cannot be modified⁴³. A third issue (except single linkage) is that they can produce varying solutions by re-ordering the data in the matrix. The analysis is also not stable when cases are dropped, especially when a sample is small (Jardine and Sibson 1971). The hierarchical nature of the analysis also means that early ‘bad judgements’ cannot be rectified. It is therefore important for the researcher to think about which method to use. Consequently, non-hierarchical algorithms are also used in this work.

Non-hierarchical algorithms are used whereby the number of clusters identified from the hierarchical procedure is carried forward for use in the non-hierarchical cluster procedure (described below). The number of clusters within the hierarchical solution is identified⁴⁴ by finding the largest change in the agglomerative coefficient (Hair et al. 1998; Romesburg 2004). Alternatively, the coefficients are plotted against the number of clusters to obtain a visual picture of the point at which the largest change in the

⁴³ Multiple passes cannot be made because the algorithm would treat the observations as individual clusters in the first step of the next pass. Thus, the same clusters could emerge from clustering the observations again.

⁴⁴ See chapter 7 for the number of clusters identified using the hierarchical method.

coefficient occurs. This jump is known as the “elbow effect”. This effect establishes the number of clusters in the solution. To increase the validity in determining the final number of clusters as well as minimising the flaws associated with the hierarchical method, the non-hierarchical clustering procedure needs to be addressed.

5.2.1.5.2 Non- Hierarchical Algorithms

The second clustering algorithm method used to place similar objects into groups or clusters are called non-hierarchical algorithms. Non-hierarchical methods are also referred to as K-means clustering or iterative methods (Romesburg 2004). In this method, objects are assigned into clusters once the number of clusters to be formed is specified (k). The value of k is equal to the number of clusters identified from the previous hierarchical procedure. The method does not involve a tree-like construction process and does not require a distance or similarity matrix between all pairs of cases. Rather, objects are assigned into clusters once the number of clusters to be formed is specified.

The first step in non-hierarchical algorithms is to select the cluster seed or ‘centre points’ of clusters along input variables. The researcher starts with an initial set of means and classifies cases based on their distances to the centres. There are different approaches to selecting cluster seeds. One way is to use the cluster centre (mean) based on the standardised variables in the hierarchical solution. Another way is to use random cluster centres that can be used to validate the dataset (discussed later). K means uses one of three approaches: sequential threshold, parallel threshold, and optimization, to assign individual observations to one of the clusters.

Sequential threshold: this method starts by selecting one cluster seed and includes all objects within a pre-specified distance. When all objects within the distance are included, a second cluster seed is selected, and all objects within the pre-specified distance are once again included. The process

repeats itself but once an object is clustered with a seed, it is no longer considered for subsequent seeds.

Parallel threshold: this method selects several cluster seeds simultaneously in the beginning and assigns objects within the threshold distance to the nearest seed. Threshold distances can be adjusted to include fewer or more objects in the cluster as the process continues. Some observations can remain un-clustered if they are outside the pre-specified threshold distance from any seed.

Optimization: this method is similar to the other two methods except it allows for reassignment of objects. If an object becomes closer to another cluster that is not the cluster to which it is currently assigned, an optimizing procedure switches the object to the more similar (closer) cluster. In this method, the calculation of the cluster centres (means) is carried out after all cases have been allocated to a given cluster. An optimal solution is arrived at when passes through a dataset continue until no observations change clusters (Anderberg 1973). This method is used in this study.

Non-hierarchical methods have advantages over hierarchical methods. Firstly, the method does not require the researcher to know the number of clusters in advance. Secondly, non-hierarchical methods are less susceptible to outliers as they can be corrected in subsequent passes as observations can switch cluster membership (Aldenderfer and Blashfield 1984; Hair et al. 1992) i.e. the algorithm repeatedly reassigns cases to clusters, so the same case can move from cluster to cluster during the analysis. Unlike the hierarchical approach, once two observations join to form a cluster, they do not have to remain together for the remainder of the analysis. Large sample sizes are therefore more suitable to non-hierarchical methods (Hair et al. 1998). Thirdly, by making multiple passes through the data, the final solution optimizes within-cluster homogeneity and between-cluster heterogeneity i.e. non-hierarchical procedures groups respondents' answers into a predetermined number of clusters and doing so minimizes the main distances between the data points and the cluster means (Aldenderfer and

Blashfield 1984). The researcher however cannot get solutions for a range of cluster numbers unless they re-run the analysis for each different number of clusters.

5.2.1.5.3 Combined Method

To limit the disadvantages and enhance the advantages of the hierarchical and K-means methods, a solution advocated by many experts is to use both methods to gain the benefits of each (Hair et al. 1988; Milligan 1980). Research indicates using both hierarchical and non-hierarchical procedures increases the validity of solutions (Milligan 1980; Punj and Stewart 1983). The only cost is the extra time and effort required on the researcher's part. The two-stage clustering procedure has also been employed in several other tourism segmentation studies (Cleaver 2004; Horseman et al. 2002; Normand et al. 2001; Pennington-Gray and Lane 2003; You and O'Leary 2000). For these reasons, this research uses hierarchical and non-hierarchical methods in tandem.

5.2.1.6 Clustering Formation

Determining the number of clusters to be formed is the fifth and final question in the partitioning process. The two-stage clustering procedures can use hierarchical algorithms (using squared Euclidean distance and wards method for example) to determine the number of clusters (k) in the solution, and these results can then serve as the starting points for subsequent non-hierarchical clustering (Hair et al. 1992; Milligan 1980,1985,1981; Punj and Stewart 1983). In other words, the cluster centres (means) from the hierarchical solution can be used as initial seed points for the K-means cluster analysis. The K-means method identifies cluster memberships and calculates cluster centres (means) after all cases have been allocated to a given cluster. It is usual to examine more than one solution from the hierarchical procedure into the K-means method however (although there are no standards or guidelines or objective set of criteria when choosing the number of clusters to include). Hair et al. (1998) suggests taking two to four solutions to decide which is best among the alternatives. The clusters

are then labelled using *a priori* criteria, practical judgement and common sense, and/or theoretical foundations.

Analysis of variance (ANOVA) (Tabachnick and Fidell 2007, 2001, 1989) is then employed to determine which solution provides the best separation of the clustering variables, i.e the means of the un-standardised variables in each cluster for each solution are examined for differences. The residuals of the variables should indicate the assumptions are not violated and that the variables are normal with constant variance. The cluster solution demonstrating statistically significant differences between the variable means for each cluster is the most distinct solution and is chosen as the final cluster solution. The first step in cluster analysis, the partitioning process, is complete.

5.2.2 Interpretation

The second step of the clustering process interprets the clusters. This step assesses how to use the cluster groups with the aim of understanding the traits and characteristics of each cluster. The clusters are then labelled. Interpretation involves examining each cluster in terms of the cluster variate, and provides an accurate label describing the nature of each cluster (Hair et al. 2006). The means of the un-standardised variables in each cluster, for each solution, are obtained⁴⁵ to facilitate the labelling of the clusters. Descriptions are given to particular ranges (high or low for example) for the means of the un-standardised variables. The means are then used to interpret and label a suitable name to describe each cluster.

Interpretation in other words, examines the mean of each respondent's behaviour and psychographic traits and develops labels reflecting these conditions. The labels are assigned in accordance with the theme of the research work. As the clusters in this study are identified from an analysis of travel behaviour, travel activities, travel constraints, life focus and character type. The descriptive labels assigned to each cluster are in

⁴⁵ See Chapter 7 Section 7.3.3.

accordance with these themes. The results of the interpretation stage are twofold. Firstly, descriptive profiles are achieved, and secondly, distinct segments based on the travel behaviour and psychographic behaviour is achieved.

The second step in cluster analysis, the interpretation stage, facilitates the comparison of prior theory and practical experience (Hair et al. 2006). The second research question: “examine whether factor and cluster analysis can be used to identify segments in a chosen market” is now complete. However, the third and fourth stages of the clustering process, the validation and profiling stages need to be addressed.

5.2.3 Validating and Profiling Clusters

The third step in cluster analysis validates the clusters. The fourth and final step profiles the clusters. These stages are performed interchangeably as they explain the groups. As mentioned, both hierarchical and non-hierarchical methods are used in this work to increase validity. However, the selection of a cluster solution validation is subjective (Arabie et al. 1996).

One method of validation is to carry out the K-means analysis using initial random seed points (generated by SPSS). Using the initial random seed points, graphs of the means for the standardised variables for the resulting clusters are compared with the hierarchical seed points. The standardised variables are examined as they facilitate comparisons between the two solutions. Similarity between the graphs indicates similar means (for the standardised variables within each cluster solution). Cluster membership can also be examined by a cross-tabulation of the resulting clusters. This determines whether cases are assigned to the same clusters. A high percentage of cluster membership conformity is desired. This shows that irrespective of the initial seed points used, similar classification is obtained.

A second cross-validation method involves randomly splitting the sample into two groups. Each half is cluster analysed separately using some classifying measure (McIntyre and Blashfield 1980; Hair et al. 2006). The K- means analysis, cluster analyses the two new data sets. The resulting means (of the standardised variables within each cluster for each solution) are examined. The standardised variables are compared between the two solutions. Similarity obtained for each half indicates similar means. The cluster solution is then deemed representative of the population (Hair et al. 2006). Randomly splitting the sample is the measure chosen to validate this study's data.

5.2.1.7 Comparing and Profiling Cluster Solutions

To ensure the cluster solution is different, it is tested and validated in comparison with the individual clusters. Clusters are compared against each other across the cluster variables. Analysis of variance (ANOVA) models are then used to analyse the effects of the explanatory variable in question on the response variable. Single-factor studies are utilised to compare different factor levels (Neter et al. 1996). The ANOVA model is given by:

$$Y_{ij} = \mu + \tau_i + \varepsilon_{ij} \quad (\text{Equation 5.4})$$

Where:

Y_{ij} is the value of the clustering or additional variable for the j^{th} observation for the i^{th} cluster.

μ is a constant component common to all observations

τ_i is the effect of the i^{th} cluster

ε_{ij} is independent $N(0, \sigma^2)$

$i = 1, \dots, 4; j = 1, \dots, n$

ANOVA is testing the hypothesis:

$$H_0: \tau_1 = \tau_2 = \tau_3$$

H_1 : not all τ_i are equal

Normality is examined with a probability plot of the residuals (the difference between predicted value and observed value). If normality is present, the points will appear in a straight line. Formal tests for normality are conducted using the Shapiro–Wilk and Kolmogorov-Smirnov tests. These test the null hypothesis that groups come from a normal distribution. A decision on normality is ascertained upon visual interpretation of the plots. The decision is confirmed by the tests. Constant variance is examined graphically by plotting the residuals against the predicted values. If the variance is constant, there is no pattern in the plot. All points are evenly spread. The formal test for constant variance is the Levene’s test. This tests the null hypothesis that groups have equal variance.

Post – hoc analysis is carried out if significance is found. ANOVA tests are used to see which clusters differ. Tukey’s HSD test is a common test often used in conjunction with analysis of variance (ANOVA). Of interest is the set of all pair-wise comparisons of factor level means (Neter et al. 1996). Tukey’s HSD test is based on the range statistics (q) to compare pairs of means (Sheskin 2003).

The Tukey’s HSD test statistic is given by:

$$q = \frac{\bar{X}_i - \bar{X}_j}{\sqrt{MS_{wg} \left[\frac{\left(\frac{1}{n_i}\right) + \left(\frac{1}{n_j}\right)}{2} \right]}}$$

(Equation 5.5)

Tukey’s HSD tests the hypothesis:

$$H_o: \bar{X}_i - \bar{Y}_i = 0$$

$$H_1: \bar{X}_i - \bar{X}_j \neq 0$$

If the assumptions of normality and constant variance are not verified, an equivalent non-parametric test must be conducted. A non-parametric test is a distribution free test that does not depend on any assumptions (Sheskin 2003). The data does not have to be drawn from any particular probability

distribution. The non-parametric test that can be used is the Kruskal- Wallis test.

The Kruskal- Wallis test is a one-way analysis of variance test by ranks. It compares mean ranks across groups (Sheskin 2003). Medians and inter-quartile ranges summarise the data. The data is ranked from lowest value to highest value. Ranks are then summed across the groups and an average of these summed ranks is obtained. The mean ranks are used to compare the groups. The Kruskal-Wallis test statistic is:

$$H = \frac{12}{N(N+1)} \sum_{j=1}^K \left[\frac{(\sum R_j^2)}{n_j} \right] - 2(N+1)$$

(Equation 5.6)

Where:

H is the Kruskal Wallis test statistic

N is the total number of ranks across the groups

$\sum R_j$ is the sum of ranks in the j^{th} group

n_j is the total number of ranks in the j^{th} group

$j = 1, \dots, 4$

The Chi-square distribution is used to approximate the Kruskal Wallis test statistic (Sheskin 2003). The hypotheses states:

$$H_0: \bar{R}_1 = \bar{R}_2 = \bar{R}_3$$

H_1 : not all \bar{R}_j are equal

\bar{R}_j is the mean rank for the j^{th} group

When Kruskal - Wallis is significant, post-hoc tests must be conducted using the Mann Whitney U tests (employing a Bonferroni correction). Mann-Whitney U tests whether two independent samples represent two populations with different mean ranks (Sheskin 2003). The test statistic is given by the minimum value of U1 or U2. It is defined as follows:

$$U_1 = n_1 n_2 + \frac{n_1(n_1 + 1)}{2} - \Sigma R_1$$

(Equation 5.7)

$$U_2 = n_1 n_2 + \frac{n_2(n_2 + 1)}{2} - \Sigma R_2$$

(Equation 5.8)

ΣR_1 are the summed ranks for group 1

ΣR_2 are the summed ranks for group 2

n_1 is the number of ranks in group 1

n_2 is the number of ranks in group 2

The hypothesis for the Mann-Whitney U states:

$$H_0: \bar{R}_1 = \bar{R}_2$$

$$H_1: \bar{R}_1 \neq \bar{R}_2$$

\bar{R}_j is the mean rank for the i^{th} group

A Bonferroni correction is a method of adjusting the significance level (α) for multiple testing. As multiple tests are performed the probability of finding significance by chance increases with the number of tests being performed. A Bonferroni correction decreases the chance of making a Type one error (error of rejecting the null hypothesis when it is true). Analysis of variance (ANOVA) testing facilitates cluster profiling.

Profiling therefore describes the characteristics of each cluster in terms of their most relevant dimensions/variables. Profiling characterises the clusters, explaining how they might differ. Previously unused data (for e.g. descriptive variables that were not served as the basis for clustering) are utilized. Descriptive statistics and chi-square tests can be used to develop a profile of each cluster. Chi-square tests are conducted for categorical variables and t-tests for continuous variables. These tests examine all variables within a cluster (Norusis 2007). If the absolute value of the statistic is greater than the critical value, the variable is considered important in distinguishing that cluster from the others. If the absolute

value is below the critical value, it is insignificant in distinguishing a cluster from the others and can be removed from further analysis (Norusis 2007).

Cross tabulations are then performed using the newly formed final cluster solution. The profiling process develops a comprehensive profile of the individuals in each cluster. Profiling focuses on describing not what directly determines the clusters but the characteristics of the clusters after they have been identified (Hair 1997).

5.3 Limitations of Cluster Analysis and means to overcome problems

Completing the four steps proposed by Hair et al. (2007), cluster analysis successfully creates cluster segments in a market. There are however drawbacks to cluster analysis. Firstly, it is deemed a descriptive method of analysis (Blake et al. 2007) whereby it “can be characterised as theoretical and non-inferential” (Hair 1997:474). Cluster analysis is an exploratory technique as the method creates clusters regardless of the “true” existence of any structure in the data. The cases are therefore extremely sensitive. The cluster solution is dependent on the variables used as the basis for the similarity measure. In addition, if slight changes (addition or deletion of relevant variables) are made, a solution may produce completely different results (Hair et al. 2006). Clusters are also affected by the choice of distance or similarity measure, the choice of algorithm, standardization of data, outliers and more (Punj and Stewart 1983; Everitt 1974). Consequently, cluster analysis can be deemed subjective and open to bias.

Despite the limitations associated with cluster analysis, the method is a proven valuable analytic tool used frequently to devise consumer profiles, or develop classification systems or taxonomies. Any shortcomings associated with the method can be reduced if all stages of the research are carefully administered ensuring the processes suggested by Hair et al. (2006) are accurately followed. For example, repeating the procedure for different clustering solutions, comparing results within two samples of the

population, and/or using both hierarchical and non-hierarchical clustering methods can increase the method's validity. Cluster analysis is consequently used in this research for three reasons. Firstly, cluster analysis is the most effective technique to identify segments in a market (Hair et al. 2006). Secondly, numerous segmentation literature in the tourism area⁴⁶ have utilised this multivariate technique. Thirdly, no Irish work has used this method to segment the North American coach tourist market in Ireland. Using cluster analysis in this research is not only justified, it is also unique.

5.4 Conclusion

This chapter described the processes involved in carrying out cluster analysis. The chapter explained the second methodological step towards developing a comprehensive segmentation model of the North American coach tourist visiting Ireland. The chapter explained how cluster analysis highlights specific sub-groups. The chapter detailed three methods of outlier detection (examining the agglomerative schedule, inspection of box plots and determining the mahalanobis distance). The chapter explained how the combination of hierarchical and non- hierarchical clustering algorithms could accurately identify segments. Specifically, the optimization non-hierarchical method, and the average linkage hierarchical agglomerative method could be used to devise segments. The chapter also explained the tests for similarity using Euclidean distance measures. Finally, the chapter described how the clustering process could be validated by splitting the sample into two. The chapter therefore clarified how the application of cluster analysis can successfully identify and profile relationships among sub-groups based on some pre-defined variables. Chapter seven explains how this statistical approach is applied to the North American coach tourist market in Ireland.

⁴⁶ Refer to chapter three

CHAPTER SIX: DATA COLLECTION AND METHODOLOGY

6. Introduction

This chapter explains and justifies the data collection choices made in this research. The chapter answers research task two listed in Chapter one, “Devise a unique instrument (questionnaire) to analyse the North American coach tourist market in Ireland”. Three stages of primary data collection are described. The culmination of all three stages, form this study’s methodology - the mixed method approach. The chapter outlines how findings from the literature review in chapter three, and findings from phase one and phase two of the data collection process, develop the third and final phase questionnaire. (This questionnaire is factor analysed and cluster analysed in chapter seven). This chapter justifies the use of the mixed method approach. Response and non-response rates are also presented. Although the combined segmentation method (chapter three) and the mixed method approach are not new methodological approaches, no Irish research to date, has used these approaches to segment the North American coach tour industry. The chapter highlights uniqueness in this research.

The chapter is divided into subsections: Section 6.1 describes the research design process, explaining the mixed methods approach. Section 6.2 describes the three phases of primary data collection and analysis of phase one and two is provided. Section 6.3 presents the response and non-response rates, while section 6.4 summarises the chapter.

6.1 Methodological framework

This study uses a mixed methods approach, incorporating an in-depth qualitative analysis and a large-scale survey, to fulfil the final research question, “develop a comprehensive segmentation model, using factor analysis and cluster analysis to assess the travel behaviours (trip type, holiday activities etc.) and psychographic behaviours (life focus, character

types of tourists etc.) of the North American coach tourist visiting Ireland”. The mixed method approach uses quantitative and qualitative methods. An explanation of these methods is provided in the following section.

6.1.1 Qualitative and Quantitative and Mixed methods

Qualitative research consists of open-ended information collected from interviews, videos, or documents. The emphasis is on theory building and generating hypothesis. The data incorporates words and images, and literature is used to understand a single idea. Qualitative analysis may however focus too closely on individual responses, failing to consider other factors. This may occur when the number of respondents is limited. Researcher bias is therefore an issue.

Conversely, quantitative methods use closed-ended questions used to statistically analyse data and/or test hypotheses. The method develops knowledge with a view of hypothesis testing, developing suitable inquiry techniques (such as surveys), and collects data using instruments that produce statistical results (Malhotra 2004). However, quantitative research fails to understand the context of peoples’ statements or opinions. By focusing individual responses into inappropriate categories, the researcher may lose useful information.

According to Becker (1993), qualitative and quantitative methods differ in three ways: when capturing an individuals’ view, examining every day constraints, and when securing rich descriptions. Quantitative questions are confirmatory in nature while qualitative questions are generally exploratory (Teddlie and Tashakkori 2002). “Quantitative research can be used for theory generation (as well as verification), while qualitative research can be used for theory verification (as well as generation)” (Punch 1998:17). In addition, whilst quantitative data is deductive in nature, qualitative data is more inductive (Trochin 2002). Acknowledging the advantages and disadvantages of both methods, this research uses a combination of both methods, the mixed methods approach.

The mixed methods approach can be labelled in several ways. Labels include quantitative and qualitative methods, multi-trait or multi-method research, integrated or combined approach, hybrid approach, triangulation or mixed methodology (Ragin et al. 2004; Tashakkori and Teddlie 1998; Steckler, et al. 1992; Mores 1991; Fielding and Fielding 1986; Campbell and Fiske 1959). Triangulation is the most common within literature and tourism literature (Jick 1979; Brewer and Hunter 1989; Greene et al. 1989; Morse 1991; Corey 1996; Marti 1995; Anderson et al. 1999; Creswell 1999 2007; Creswell, et al. 2003).

Irrespective of labelling, the approach “focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of studies” (Creswell 2007:5). The mixed method approach “can clarify subtleties, cross-validate findings and inform efforts to plan, implement and evaluate intervention strategies” (Black and Ricardo 1994:1066). Although the method can take time and can be difficult for the researcher to implement, “using quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone” (Creswell 2007:5). Mixing both quantitative and qualitative methods, the researcher can also simultaneously answer both confirmatory and explanatory questions, and verify and generate theory in the same study (Teddlie and Tashakkori 2002). Decrop (1999) states the method limits the personal and methodological biases, and enriches the study’s generality with more accurate inferences. Table 6.1 provides a synopsis of the characteristics of quantitative, mixed, and qualitative research methods.

	Pure Quantitative	Mixed Methods	Pure Qualitative
Process of Research	-Emphasis on theory testing and measuring -Deductive	Deductive & inductive	-Emphasis on theory building (new hypothesis), meaning and understanding -Inductive
View of human behaviour/ Nature of observation	-Behaviour is regular and predictable. -Study behaviour under controlled conditions.	-Behaviour is predictable. -Study behaviour in more than one context or condition	-Behaviour is fluid, dynamic, situational, social, contextual and personal -Study behaviour in natural environments.
How intent is focused	-Numbers -From many participants at many research sites -Sending or administering instruments to participants	Combination of both	-Words and images -Few participants at a few research sites -Studying participants at location
Research intent/ Focus	-Major role -Justifies problem narrow-angle lens -Identifies questions and hypotheses	Multi-lens focus	-Minor role -Justifies problem wide & deep-angle lens. -Examines the breadth and depth of phenomena to learn more about them.
How literature is used	-Closed-ended questions -Test specific variables that form hypotheses or questions -Relatively structured	Combination of both	-Open ended questions -Understands complexity of single idea -Relatively unstructured/semi-structured
Nature of data	Variables	Mix of variables, words and images	Words, images, categories.
How data is collected	-Numerical statistical analysis -Rejecting hypotheses or determining effect sizes	Combination of both	-Text or image analysis -Themes -Larger patterns or generalizations
How data is analysed	-Remains in background -Takes steps to remove bias -Researcher is objective	Common sense realism and pragmatic view of world (i.e. what works is what is 'real' or true)	-Identifies personal stance -Reports bias -Researcher involvement as instrument -Subjective Researcher
Role of the Researcher	-Using validity procedures based on external standards, such as judges, past research, statistics -Prior theory used to generate hypothesis	Combination of both	-Validity procedures that rely on participants, researcher, or reader -Prior theory may be used at various times

Table 6.1 contd. Synopsis of quantitative, mixed, and qualitative methods			
	Pure Quantitative	Mixed Methods	Pure Qualitative
Form of data collection	-Collect questionnaire database on precise measurements using structured and validated data collection instruments (e.g. closed-ended items, rating scales, behavioural responses)	Multiple forms	-Collect qualitative data (e.g. in-depth interviews, participant observation, field notes and open-ended questions). -Researcher is primary data collection instrument.
Form of final report	-Statistical report (e.g. with correlations, comparisons of means and reporting of statistical significance of findings)	Eclectic pragmatic	-Narrative report with contextual description, and direct quotations from research participants.
<i>Source: Adapted from Creswell (2007) and Johnson and Christensen (2007)</i>			

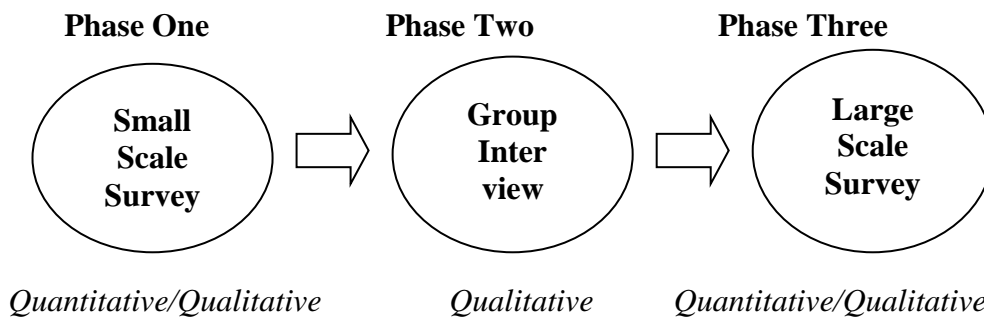
According to Hathaway (1995), deciding which research method to use is dependent on the researcher's own experience and preference, the population under research, the proposed audience, time, money, and any other resources available. Hathaway (1995) and Creswell (1994), consider five criteria when choosing a research methodology the researcher's philosophical stance, the training and knowledge of the researcher, the psychological attitudes of the researcher, the nature of the problem, and the target audience. Yin (2003) states the chosen method is dependent on the potential contribution of either method to solving the research problem.

There has been increasing support for the mixed method approach however, as it increases the scope and comprehensiveness of the study (Morse 2002). According to Creswell (2007 1999), mixing the datasets provides the researcher with a better understanding of the problem than if either dataset is used independently. Mixed methods allows for more accurate and credible data (Decrop 1999), and greater and more rigorous scope by neutralising the limitations and disadvantages associated with both procedures (Jick 1979; Carson and Coviello 1996). Consequently the approach is used here.

6.2 The Mixed Methods Approach

Figure 6.1 depicts how this research applies the (triangulation) mixed method approach.

Figure 6.1 Mixed Method Research Process



Phase one is a small-scale exploratory survey. Phase two involves a qualitative group interview, and the third and final phase is the large-scale survey. Similar to Riley and Love (2000) the collection and analysis of the quantitative and qualitative data is carried out in three separate stages. “Different but complementary data on the same topic” (Morse 1991: 122) (in this case the North American coach tourist) is therefore collected. Results are then converged until findings about the topic result. Figure 6.2 details the sample method chosen for each phase.

Figure 6.2 Research Method Employed

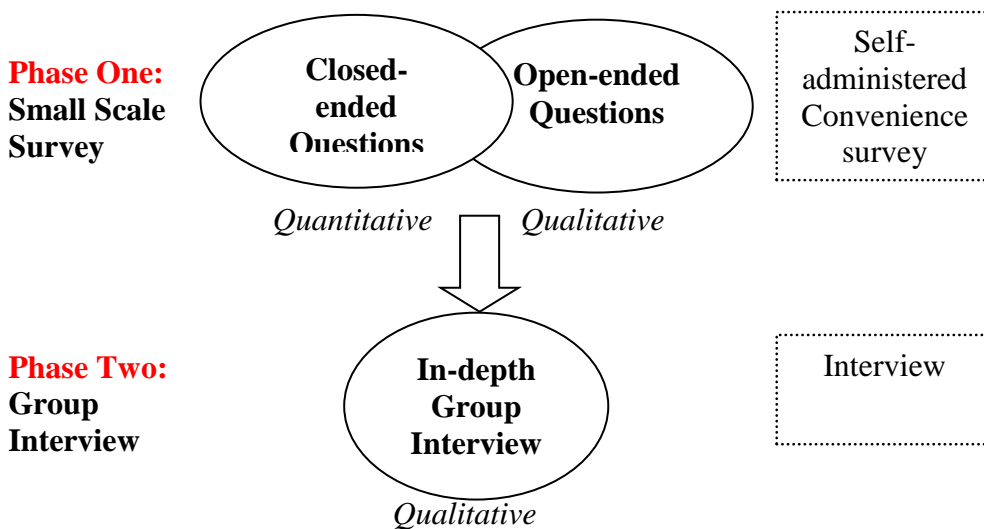
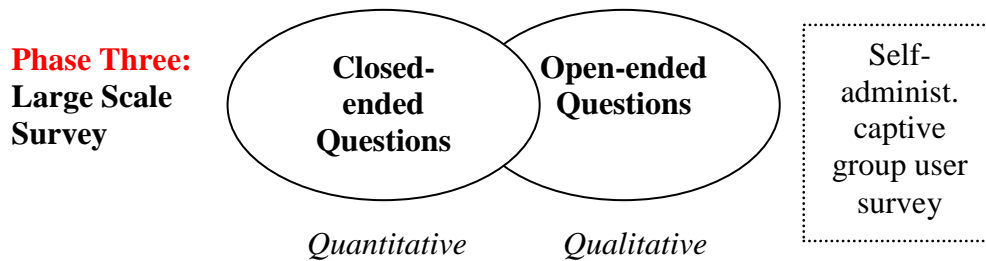


Figure 6.2 contd. Research Method Employed



Appendix D presents a copy of phase one’s small-scale survey. Questions in the survey were derived from literature in the area (chapter three), and were a mix of open and closed-ended questions. Phase two, consisted of a group interview. The open-ended questions in this phase were derived from the literature review, and the findings from phase one. The open-ended questions facilitate direct quotations from participants in an unstructured way. Phase three, the final large scale survey, combines the literature review findings, with the findings from phase one and phase two. The large-scale survey asks both open and closed-ended questions. As results are carried through to subsequent stages thereafter, the culmination of the stages forms this study’s unique instrument (questionnaire).

6.2.1 Survey Questionnaires

There are six types of surveys used in tourism research (Veal 2005). *Household surveys* (Bloom 2004; Carmichael and Smith 2004), *street (convenience) surveys* (Hsu, et al. 2006; Hyde 2006;), *telephone surveys* (Walker and Hinch 2006; Fleischer and Pizam 2002), *mail surveys* (Lau and McKercher 2004; Kang et al. 2003), *user surveys* (Hsu and Kang 2007; Sarigollu and Huang 2005), and *captive group surveys* (Jang and Wu 2006; Kim et al. 2006). Self-administered surveys are also the most frequently used by tourism researchers (Furr and Bonn 2006; Veal 2005; McCleary, et al. 2005; Sirakaya et al. 2003; Bonn, et al. 2005). This work uses a self-administered convenience survey, and a self-administered captive group survey.

The convenience survey randomly selects the population. Preliminary findings are quickly obtained. Conversely, the captive group user survey ensures the target population (North American coach tourists) are surveyed on-site at a tourist location (Hsu and Kang 2007; Sarigollu and Huang 2005; Jang and Wu 2006; Kim et al. 2006, Frochot 2005). Captive group surveys take place in organised settings so completion is less problematic (Veal 2006). A standard manner of data collection for each tourist also ensures consistency (Malhotra 2004). Self-administered surveys can therefore capture the target population (coach tourists) on site, in an extremely convenient and efficient way. However, self-administered surveys can be intrusive. Tourists may feel violated having to complete a questionnaire survey (Veal 2005). Self-administered surveys also require the researcher to be present to administer the questionnaire (Aaker et al. 2003; Veal 2005). This could be costly in terms of time. In addition, self-administered surveys do not allow prompts or help if clarification is required (Malhotra 2004). Incorrect information or incomplete surveys may result. Despite these limitations, self-administered surveys have a high level of accuracy. They are quick, have a limited cost, are relatively easy to understand, ensure confidentiality, and results can be readily used for statistical analysis (Veal 2005; Malhotra 2004).

Chapter 3 section 3.4 explained the development of the self-administered unique questionnaire used in this work. Variable themes including; trip characteristics; motivations for travel – push and pull factors; activities; travel constraints; information sources; lifestyle characteristics, character type and demographic characteristics are assessed. Section 6.3 discusses the implementation of this unique questionnaire.

6.3 Survey implementation - Phase 1

A convenience random sample was conducted in May 2008. The objective of this phase was to test the usability of the survey and gain preliminary insights into the North American coach market. Misunderstood or confusing variables were altered or deleted, and other suggested variables

were acknowledged. The test was conducted in Blarney, Co. Cork. This phase was a convenient sample whereby a random sample of the population had an equal chance of being selected (Bell 1993). Blarney was chosen because it is a popular stopping point for North American coach tours. Consequently, the targeted North American leisure coach tourists could be easily targeted and a good response rate could be achieved.

With the tour operator's permission⁴⁷ the self-administered survey was distributed (to gauge the approximate time of arrival of each coach tour, the researcher contacted the bus drivers). The questionnaires were distributed over a two-week period. A true random sample was difficult to achieve however, because results depended on the goodwill of respondents. This phase of the research process did however allow the researcher to observe and interact with a sample of tourists (Veal 2005). Informal chats with leisurely tourists provided additional knowledge and opinions. These findings, along with the overall findings of phase one (Section, 6.3.1) were noted, and used in phase two, the group interview (Section 6.3.2).

6.3.1 Phase 1: Response and analysis

One hundred and ten questionnaires were distributed over the two-week period. A response rate of 26 per cent (29 useable surveys), was achieved. According to Veal (1987), this is modest response rate. To fulfil the overall research objective in chapter one, several goals were set in place. These goals included:

1. Assess the socio-demographic and trip characteristics of respondents;
2. Determine the importance of activities pursued while on last holiday, and on an ideal holiday. Assess the relationship between desirable activities and socio-demographic characteristics;

⁴⁷ The researcher contacted the tour operators with bus tours facilitating North American tourists around Ireland. All tours travelling the south of the country stopped at Blarney. Blarney was therefore deemed a good location to target the North Americans. By phone, the researcher requested the tour operator's permission to target their coach tours. (See response rates Section 6.4). Also see Appendix C for a full list of the tour operators.

3. Determine the importance of motivation when deciding and choosing a destination. Assess the relationship between motivations and socio-demographic characteristics;
4. Assess the travel constraints that prevent travel and the most popular /important sources of information used;
5. Establish the lifestyle characteristics and character type of respondents.

A combination of quantitative methods including Likert rating scales (where 1 indicates not important at all, 3 indicates neither important or unimportant, and 5 indicates extremely important), close-ended questions, and open-ended questions (see section 3.4) were used to achieve these goals.

Phase one analysis is preliminary in nature. Univariate statistics in the form of percentages were carried out. Cross tabulations were conducted along with significance tests (Pearson chi-square). Significance tests determine whether findings are statistically related (correlate) to one another by chance, or whether it was due to the population (n=29), from which it was drawn. Significance levels (P values) ranging from 1.0 to 0.00 indicate whether a relationship exists. If the P value is <0.05 the relationship between two variables was deemed statistically significant. In this instance, values ranging between 0.01 and 0.05 are taken as a measure of significance, and 0.05 was taken as the critical point. Open-ended qualitative questions were transcribed verbatim into Microsoft Word for subsequent analysis. Coding was applied, and frequencies of responses that were deemed alike were recorded. Where more than one response was given, the most frequent was recorded. Applying this analysis, the five goals were accomplished. Results are outlined below.

Goal 1. Socio-Demographic and Trip characteristics

Table 6.2 presents the socio-demographic traits of respondents.

Table 6.2 Socio-Demographic Characteristics of Respondents-Phase 1		
Respondents	(N29) Percentage (%)	
Sex	Male	42.1
	Female	57.9
Age	35-44 yrs	11.8
	45-54 yrs	11.8
	55-64 yrs	26.5
	65- 74 yrs	35.3
	≥75	11.8
	No response	2.8
Work Status	Retired	44.1
	Manager/Executive	5.9
	Professional/Technical	20.6
	Craftsman/Factory worker	2.9
	Government/Military	2.9
	Homemaker	5.9
	Secretary/administrator	5.9
	Other	11.8
	No response	2.8
Marital Status	Married	70.6
	Single	8.8
	Divorced	5.9
	Widowed	8.8
	Other	5.9
Education	Senior High	44
	Degree	32.4
	Masters	5.9
	Doctorate	5.9
	No response	11.8
Income (\$)	<\$49,999	26.4
	\$50,000-\$89,999	26.5
	\$90,000-\$129,999	17.6
	>\$130,000	8.8
	No response	20.7

Overall, sun and touring holidays were the dominant types of trips taken by the respondents in the sample. Cross-tabulations indicate males are more

likely to go on countryside/cultural educational trips, whereas females enjoy sun, touring, VFR and activity breaks. These findings correspond with Letho et al. (2001) citing differences in travel behaviour between men and women do exist whereby women like socialisation, education, and personal safety, while men like outdoor activities while on holiday. Flexible holidays or a combination of different kinds of holidays may therefore suit respondents. In terms of season of travel, 69 per cent of females like to travel in summer. Males travel the most during the colder months of winter (36 per cent) and autumn (21 per cent). This could have important implications and opportunities for tourism providers. The average number of nights spent on any vacation for this sample was two weeks. Holidays designed specifically for couples, was the most preferred holiday type (40 per cent of females and 36 per cent of males). However, 29 per cent of males and 26 per cent of females also like holidays catering for groups of tourists.

Hotels were the preferred choice of accommodation. Almost 27 per cent stay in hotels 100 per cent of the time while forty per cent, stay in hotels 60 per cent of the time. Thirty-eight per cent (the largest percentage), spent between \$3,000 and \$6,000 on holiday. Twenty-seven per cent spend up to \$3,000, and 11 per cent spend over \$10,500. The, 65 to 74 years age category spent the most, with 25 cent spending on average \$10,500-\$12,000 on a holiday. The youngest and oldest age categories spend the least.

Goal 2. Determine the importance of activities pursued on last holiday, and on ideal holiday. Assess the relationship between desirable activities and socio-demographic characteristics.

Table 6.3 presents the activities respondents participated in on their most recent holiday, and the activity they would like to pursue on their ideal holiday.

Table 6.3 Importance of Holiday Activities - Most Recent and Ideal		
Activity	Recent Holiday (%)	Ideal Holiday (%)
Visiting family and friends	28	32
Tracing roots/Genealogy	17	12
Historical activities	36	Non-response
Ethnic culture events	10	Non-response
Local festivals	10	Non-response
Sun-bathing/beach	12	10
Museum/art gallery activities	21	Non-response
Nature Activities	26	Non-response
Guided tours/excursions	38	Non-response
Mountainous areas	8	5
Natural eco sites	5	Non-response
Spiritual/religious activities	18	12
Artistic/Literary activities	15	Non-response
Tennis	9	Non-response
Water-sports	15	Non-response
Equestrian	17	Non-response
Golf	21	Non-response
Cycling	15	Non-response
Fishing	7	Non-response
Bird watching	12	Non-response
Theatre act/stage show	18	Non-response
Fine dining	40	20
Music/food	21	Non-response
Shopping	30	21
Spa treatments/massage	18	20

Table 6.3 shows fine dining (40 per cent), guided tours (38 per cent), history (36 per cent), visiting relative and friends (28 per cent), and nature (26 per cent) are the most important activities pursued by respondents on their most recent holiday. Historical activities were the most popular holiday activity across all ages. Fine dining, shopping, history, walking, and theatre were particularly important for those aged between 55-64 years. Despite the sedentary nature of coach tours, many respondents listed golf, water-sports, equestrian, and cycling as important holiday activities. The responses for what they participated in and would ideally pursue, are roughly the same

across activities. However, the table highlights the high level of non-response for ideal activities. In order to maximise the response rate in the large-scale survey, the question needs to be altered.

Table 6.4 highlights statistically significant relationships exist between marital status and the activities listed.

Table 6.4 Cross-tabulation Activity and Marital Status					
Activity	Married (%)	Single (%)	Widowed (%)	Divorced (%)	Pearson chi square
VFR	12.50	66.7	33.30	0.00	0.006
Nature	4.20	0.00	33.00	50.00	0.005
Spiritual	0.00	33.30	33.30	0.00	0.040
Artistic/literary	0.00	0.00	0.00	50.00	0.006
Cycling	0.00	0.00	0.00	50.00	0.024
Walking	8.30	0.00	0.00	50.00	0.024
Theatre	8.30	33.30	0.00	50.00	0.034
Shopping	12.50	33.30	0.00	0.00	0.002

An option for “other activities” was also included in the questionnaire. All possible responses could therefore, be accounted for. Responses included “good music”, “fine dining”, “equestrian”, “none”, and “activity of doing nothing”, “walks”. All comments were noted for phase two of the research process.

Goal 3. Determine the importance of motivation when deciding and choosing a destination. Assess the relationship between desirable activities and socio-demographic characteristics.

Push motivations trigger a person to go on a holiday and are implicit to the individual. Pull factors determine the choice of destination and are explicit to the individual. The most important push motivations for the sampled respondents are presented in Table 6.5.

Table 6.5 Most Important Push Motivations	
Push Motivation	% importance rating
See new and different culture and lifestyle	55.9
To chill and unwind	50.0
To do some crazy fun things	47.1
To learn more things about the world	47.1
Quality time with spouse	44.1
To reminiscence	27.4
To get away from it all	26.5
For my personal growth	26.4
To find love	17.6

Table 6.5 shows that having rated on a scale of one to five (where one was very important and five not at all important), respondents found experiencing a new culture (55.9 per cent), rest and unwind (50 per cent), learning new things (47.1 per cent) and adventure (47.1 per cent) as the most significant push factors. Over 90 per cent failed to answer the “any other” push motivation. However, those who did, mentioned “keep going while I can” and “lots more to see and do” as possible motivators. As before, all comments were noted for phase two of the research process.

Cross-tabulations carried out on push motivations and socio-demographic traits showed statistical significance (chi square 0.025) between the push motivator “to do crazy fun things” and those earning between \$70,000 and \$89,999. To do new things (chi square .030); to find love (chi-square .002) and to reminiscence (chi square .033) are the most important for those who are still in employment. Forty two per cent of retirees want “to learn new things”. “Finding love” was a motivator for teachers/nurses and “to reminiscence” was a push factor for secretary/administration workers.

Pull motivations

Pull motivations establish the destination needs of respondents. They motivate a person to decide on a particular location for their holiday. Respondents were yet again asked to rate the importance of each pull

motivation on a scale one to five (where one was very important and 5 not at all important). Table 6.6 presents the complete list of pull motivations in order of the respondents' preferences

Table 6.6 Most important pull motivations	
Pull Motivation	% importance rating
Safe and secure location	58.8
Quality of scenery	58.8
Interesting history	53.0
Good value for money	50.0
Activities available	42.4
Nice weather	38.2
Cultural & artistic attractions	36.4
Availability of high quality accommodation	35.3
Ease of getting there	29.3
Recommendation	26.5
The best deal on offer	23
Trying new foods	22
An exotic atmosphere	19
Indigenous people	13

Table 6.6 shows safety and security (58.8 per cent) and quality of scenery (58.8 per cent) are the most important destination attributes for these respondents. The importance of these factors corresponds to the findings of You and O'Leary (1999). However, meeting the indigenous people (13 per cent) and ease of driving oneself at destination (10per cent) were deemed the least important motivators. Cross-tabs and chi square tests highlighted the quality of scenery available was important (chi square 0.018) for widows and divorcees, in comparison to any other marital status.

Goal 4.Outline the travel constraints that prevent travel, and the most popular/important sources of information used

Holiday constraints are the factors that prevent people from travelling. The major constraint for this sample was a lack of money with (50 per cent) and family commitments (47 per cent). The lack of a travel companion was an

issue for 37 per cent of females (chi square 0.031). Relationships were not found between travel constraints and the remaining socio-demographic variables of age, income, and education. The first and most popular /important sources of information used prior to travelling were the tour operators (with 32.4 per cent). Travel agents (with 26.5 per cent) were second while sixteen per cent used the internet as their second and third choice

Goal 6 Establish the lifestyle characteristics and character type of respondents

Table 6.7 presents the lifestyle characteristics of respondents over the next five to ten years. Respondents ranked their level of importance for each life focus listed from 1 (extremely unimportant) to 5 (extremely important).

Life focus Variable	% importance rating
Family	70.5
Travelling more	50.0
Looking after my health	70.6
Strengthening spiritual faith	29.4
Developing new skills	41.4
Caring for the environment	32.3
Working in dream occupation	8.8

Table 6.7 shows the respondents (n=29) consider family and looking after my health, as their two focuses in life over the next five to ten years. Working in my dream occupation was particularly significant for the respondents who were single (33.3 per cent).

Table 6.8 presents the character type responses of the sample. In this instance, Likert style questions assessed tourists’ responses by measuring their level of agreement (where 1 is extremely disagree and 5 is extremely agree).

Table 6.8 Character Type	
Character Type Variable	% agreement rating
Traditional values are very important to me	70.6
Cultural enrichment is very important to me	35.2
I look forward to retiring	23.5
Financial enrichment is important to me	44.2
I always keep up with new trends	32.3
Routine suits me	32.3
I live a physically active life	41.1
I consider myself liberal	29.4

Table 6.8, indicates over 70 per cent of respondents consider traditional values as very important. Financial enrichment (44.2 per cent) and living a physically active life (41 per cent) are also important. With the lowest response, (29.4 per cent) the sample do not consider themselves liberal. The singletons are looking forward to retiring (chi square 0.004). The divorcess like to keep up with new trends (0.001) and are the risk takers (0.047). All other results show no statistical significances. The main findings from phase one is presented in Figure 6.3.



Figure 6.3 Findings Phase 1

Figure 6.3 shows travel behaviour is complex. Numerous holiday activities were considered important to this sample group but historical activities and guided tours were dominant. In general, the respondents in this sample did not experience any barriers to travel, however they would be unlikely to visit a country experiencing terrorism. A lack of money and a lack of a travel companion also act as travel constraints for a sizeable proportion of respondents. In terms of sources of information used to book a holiday, the growth in using the Internet implies a more discerning consumer. The

numerous cross-tabulations calculated revealed that overall socio-demographic characteristics such as age, gender, education, and income are not sufficient for segmenting this market. Consequently, further research was required to determine the underlying motivations and needs of this group.

This study was exploratory in nature with the objective of discovering important factors relating to the motivations and of the North American coach tourist market. As motivations tend to be intrinsic to the individual, and in order to delve into the main issues that have arisen, further exploratory research in the form of qualitative group interviews was necessary. The following section of this chapter presents the results of stage two of the research process, the qualitative group interviews.

Limitations

As this stage involved a convenience sample, the population may be biased. Heavy reliance was placed on the respondents to return the questionnaire. Time was therefore a limiting factor. The inability of capturing non-respondents was also a limitation of this stage. However, all of these deficiencies are addressed in the design of the final research phase (Section 6.2).

There were three changes made before the implementation of phase two. Firstly, certain variables are now treated as separate to avoid double-barrelled questions (Veal 2005). For example, the activity variable tracing roots/historical activities was split into a tracing roots variable and a historical activities variable. Secondly, the length of the survey was reduced as the lengthy list of vacation types selected by this sample set the precedent as to which holiday type options should be provided. Thirdly, a high level of non-response was an issue with the activity question, however, with comments at the end of the question stating “questionnaire far too long” and “tedious”. This insight meant not only should the wording of the question be altered, but also the length and category options.

From this analysis, we can deduce that the coach tour respondents like to participate in a wide variety of activities irrespective of their age profiles. The findings do imply however, there is no clear consensus on whether any particular activity is specific to age, gender, income, education, or marital status groupings. Socio-demographics alone are therefore not a determining factor for the segmentation of the North American coach tourist. Despite relationships, there is also no consensus as to which variables are most significant to respondents in making the decision to go on holiday and which variables are most suitable for segmenting this market. The overall layout, length, and comprehension of the questionnaire were deemed acceptable however. This exploratory stage does highlight however, a need for further in-depth analysis of this market.

6.3.2 Phase 2: Group Interviewing

To assist in the development of the final large-scale unique questionnaire, further exploratory research was carried out in the form of group interviews. The purpose of this stage was to delve deeper and further into the travel behaviours and psychographics of the North American coach tourists. The interviews produce a wide range of insights, ideas, and extra information that the convenience survey of phase one may not capture. The process facilitates the development and structure of the final questionnaire. Group interviews therefore complement other methods, especially triangulation (Morgan 1988) as the main findings from stage one are acknowledged, and adapted into the group interviews.

Merton et al., suggests group interviews "yield a more diversified array of responses and afford a more extended basis both for designing systematic research on the situation in hand..."(1990:135). They are valuable because they "obtain information of a qualitative nature from a predetermined and limited number of people" (Kreuger 1988:26), and in a short period of time, they extract an array of views that are unachievable in other methods (Cunningham 1993). According to Stewart and Shamdasani (1990), the

questioning route should grow directly from the research questions that are the impetus for the research. Finally, group interviews can be formal with a specific, structured purpose, or group interviews can be informal, taking place in a field setting.

The group interviews took place at Blarney, Co. Cork. Because coach tours do not follow precise schedules, no pre-specified time and room could be arranged. Rather, informal group interviews were carried out by spontaneous contact with groups of tourists lingering outside their tour bus. Informal chats (Kreuger 1988) meant the researcher could obtain informative supplementary information⁴⁸. Interviews were carried out over a two-week period with twenty-five North American coach tourists participating. There were seven questions asked following the suggestions of Kreuger (1988) and Stewart and Shamdasani (1990). Kreuger (1988) suggests an interview includes fewer than ten questions, preferably around five or six, and Stewart and Shamdasani (1990) suggest taking fewer than a dozen questions. The group interview questions can be seen in Appendix D. The questions⁴⁹ were unstructured and open-ended. Words such as “how”, “why”, “under what conditions”, and similar probes were used in the group interviews “to suggest to respondents that the researcher is interested in complexity and facilitating discussion” (Stewart and Shamdasani 1990:65). Group environments can however be intimidating, especially for inarticulate or shy members (Goss and Leinbach 1996). This work ensured successful interviews by being “mentally alert... practice the discipline of listening to others in group situations and.....listen and think at the same time” (Kreuger 1988:75). Time management was maintained by ending the interview either when the bus driver returned, or when the topic had been exhausted and further discussion yielded little new information. The data were collected by note-taking capturing exact phrases and statements. Results generated were subjective and qualitative. Frequencies of responses

⁴⁸ From an ethical perspective, the researcher did not pressurise the participants to contribute (Homan, 1991).

⁴⁹ The questions asked were assessed by fellow staff members in the Centre for Policy Studies, University College Cork. Their feedback ensured the questions were phrased to elicit maximum responses.

that were deemed alike were recorded and where more than one response was given, the most frequent was recorded.

Five group interviews were carried out. The tourists within each group are presented in Table 6.9.

Table 6.9 Number and name of participants in each group interview				
Group Interview 1	Group Interview 2	Group Interview 3	Group Interview 4	Group Interview 5
Chad	Jeff	Meghan	Kathleen	Liz
Kathleen	John	Chuck	Laurie	Kevin
Sally	Helen	Britney	Shannon	Caitlin
Ted	Shelly	Amanda	Jim	Bill
Brett	Chuck	Bill	Matt	Sandy

Trip characteristics

To ease the tourists into the group discussion two general questions relating to holidays began each interview. Questions assessed respondents' usual travel patterns, and their choice of holiday destination. A wide range of holiday types were posed, including sun holidays, family holidays, walking holidays, nature holidays and package holidays. The dominant season was summer for two reasons, the majority loved the heat, and only warm destinations, and summer was the only time of the year people could take holidays. Although the tourists surveyed were on a package tour, some indicated they prefer independent tours. One tourist commented:

"I thought I'd like the package tour, I don't, it's too rigid. I don't like to have every single thing planned for me. If I was to come to Ireland again I'd use a car however I don't know how I'd cope driving on the wrong side of the road" (Bill)

On the other hand, another coach member said, *"I disagree with Bill, I love the fact everything is planned for, I love listening to experts such as Joe our driver, he rocks and he is making the trip for me- I wouldn't change a thing" (Liz)*

The preferred holiday choice differed across all group interviews, but the importance of travelling in summer was highlighted for health reasons.

Motivations

The third question assessed tourists reason to go on holiday. Responses were diverse, including:

“Holidays are about relaxing, a free headspace, free of thoughts and worries of home”

“I go on holiday to get away from my kids”

“I lost my wife three years ago and we came here after our first child was born, so I’m back to relive those memories”

“Friends brought me on holiday and who knows I might meet an Irish chick”

“I usually go on holiday to unwind and soak up the sun but this holiday I’ve been planning all my life, I just love being here- it’s so green, I love it”

“Safety is an issue for me, with so many environment disasters, its nice coming to Ireland knowing there will be no earthquake”

“I’m from Arizona, anywhere that’s not Arizona suits me- on a serious note, my kids paid for my ticket, and they knew I always wanted to come to Ireland, so this is my trip of a life time”.

“Scenery and people mean the most to me”

“Price is a huge issue although Ireland is really expensive for me, I don’t mind, I always wanted to come here”

Many also indicated they go on holiday to spend time with their friends. Others indicated they go for sun, or want to go somewhere they never visited before. Overall motivations were diverse across respondents.

Activities

The fourth question asked across the groups what activities they participated in while on holiday. Responses included:

“I love looking at old buildings especially when my great great grandfather was from here, I love feeling the closeness to him, thinking what his life was like”

“I’m an active person, even though I’m 66 I love to walk and cycle- it’s what’s keeps me young”

“Any activity that incorporates my entire family suits me”

“I love guided tours, especially nature tours so I can takes some photos”

“On holiday I like to do things I never do at home, so I want to indulge, be lazy and just eat great food and listen to music”

“I love the water and anything associated with it- you won’t find me in Irish waters though”

“I like massages at the end of a long day, I wish they were part of this package tour”

“My kids bought me an ipad for my birthday and I love it, so even though I’m on holiday I’m spending my free time reading books on it or simply just playing with it.... I love showing it to others on the bus, now they want one”

“My health isn’t the best and I probably should not have travelled so far but I don’t want any regrets not visiting the place my ancestors grew up”

The activities indicated yet again, that the sampled tourists are not a homogeneous group.

Constraints

The fifth question assessed the factors that prohibit tourists from travelling. Responses included:

“Nothing at all stops me”

“Oh money is a huge issue from me, I’ve saved for years for this holiday”

“My problem is getting someone to come with me, my best friend Sue has pets and she won’t leave the darn things”

“My health has stopped me from travelling in the past so now I live for everyday”

“My grandchildren need minding when their parents are at work so I must help out, they are important to me so I don’t mind not travelling because of that”

“I’m a teacher and I also teach in summer school so trying to find the time is the toughest”

“Barriers of any sort don’t stop me from travelling”

Results are yet again, mixed.

Lifestyle characteristics

Lifestyle questions were also asked, i.e., questions relating to the type of person the coach tourists consider themselves to be. Responses included:

“Interesting question...I consider myself a risk taker always wanting to do new adventurous things, perhaps others think I’m mad”

“I’m a family person first and foremost; family and grandkids mean everything to me”

“I like to keep fit, I think being positive inside and out is the key to happiness so that’s why I’ve started teaching yoga”

“Six years ago, I was 22 stone, now I’m 15 stone, looking after my health is part of my daily life now”

“Being around my grandchildren, running after them, keeps me fit and helps me feel young”

“I’m member of a spiritual group at home so I do lots of charity work in my area”

“I would love to travel more as I love to do new things

As with the other questions, responses were very diverse.

General comments on the Tour

The final question asked for a general comment on touring holidays. Some responses included:

“Even though I’m on a coach tour I’m an impulsive person, and I like to do my own thing so being told where we are going, what we are doing..... I find tedious”

“I love the tour, our driver is superb however it is very rigid- no room for change”

“I’m really enjoying the tour, great scenery and it is wonderful not having to drive-especially on the wrong side of the road.Some people on the tour I find very annoying. I would rather to be with a wide mix of people. That would make the tour even more enjoyable”

“I love this coach tour as everything is done for me, I have to make no decision”

“A day to do my own thing; to be on my own would be great”

“There is far too much shopping, it suits my wife, but not me, I’ve nothing to do while she shops”

“I’m ill so the routine of the tour suits me; however, bathroom facilities need to be improved”

“Packaged tours are great. They are a one stop shop, I don’t have to go and look for information, our guide is superb”

Yet again, comments were diverse, ranging from health issues, to problems with the tour schedule.

Group Interview Results

The diverse findings reiterate there is no ‘one size fits all’ type of coach tourist. No one product can satisfy the needs of a coach tour. There is a need to develop a more comprehensive package for coach tours –catering for different types of people. To ensure Irish tourism can effectively compete on a European and international level, further analysis of the coach market is necessary.

6.3.3 Phase 3: The Large Scale Survey

The third and final stage of this research process was the development of a large-scale self-administered questionnaire survey. No published study has used a combined segmentation approach to segment a tourist market in Ireland. This survey is therefore unique. In addition, no published study has detailed how factor and cluster analysis fulfils this segmentation of foreign tourists in Ireland. The aim of this stage was to provide the data to remedy this gap in Irish segmentation literature. This section explains how the data were used to answer the final research question: “develop a comprehensive segmentation model, using factor analysis and cluster analysis to assess the travel behaviours (trip type, holiday activities etc.) and psychographic behaviours (life focus, character types of tourists etc.) of the North American coach tourist visiting Ireland”.

The final survey consisted of quantitative and qualitative questions. The format of these questions included a mix of closed-ended and open-ended questions. The findings from stage one and two facilitated the development of this unique questionnaire. The result was a clear, concise questionnaire that incorporated questions derived from three sources: literature, feedback from the convenience survey, and the qualitative viewpoints from the group interviews. A large-scale self-administered captive group survey, assessing the North American coach tourist market therefore completed the primary research of this study.

Questionnaire survey and design

As mentioned in Section 6.2.1, the final survey distributed is a self-administered captive group user survey. This survey type is used as it has a high level of accuracy, speed and limited cost (Malhotra 2004) and the target population of interest (coach tourists) can be easily met (Veal 2006; Jang and Wu 2006; Kim et al. 2006). The method also ensures responses are confidential. The survey covered seven topics. Questions were derived from a number of sources including general tourism literature, segmentation

studies, and data from the findings of the previous two research phases. The findings from phase one and in particular the diverse viewpoints in phase two meant some questions were altered. Similar responses relating to character types (for example, independent person, impulsive person etc) were highlighted in the first two stages of this research. As a result, a new question relating to the tourist's character was added to the questionnaire.

A pilot study of a convenience sample of 15 people was conducted prior to the distribution of this final questionnaire. This process ensured clarity in the layout and wording of the newly altered questions⁵⁰ and newly entered question. Suggestions to improve its content and format were noted. The length of the questionnaire remained an issue. Because the length could affect response rates, over-lapping tourism activities, constraints, and motivations were merged. A copy of the final unique questionnaire can be seen in Appendix D.

The final questionnaire covered eight topics:

1. Trip characteristics, e.g., accommodation, type of trip, holiday spending;
2. Holiday activities;
3. Motivations for travel - push and pull;
4. Travel constraints;
5. Information sources used
6. Socio-demographics
7. Character type and
8. Life focus over the next five to ten years

Table 3.5 details the segmentation approach, the segmentation base, and the sample literature referred to, to complete this unique questionnaire. Likert scales, closed-ended and open-ended questions were used in its design. Likert scales were used on questions detailing holiday activities and motivations (push and pull). Respondents were asked to rate each activity

⁵⁰ The questionnaire was also distributed to colleagues within the Centre for Policy Studies in an effort to produce the most comprehensive questionnaire.

and each motivation variable on a scale of one to five, where one was not at all important and five was extremely important. Multiple motivations and activities were used as motivations can be multi-dimensional⁵¹ i.e. tourists want to have more than one experience and participate in more than one activity, during a holiday or at a destination (Pyo, Mihalik and Uysal 1989). Likert scales are therefore a quick method of response. The travel behaviour, motivations, and travel preferences of the coach tourists could therefore be determined. Life-focus questions were asked by also using the Likert scale. Additions were made to this question following the findings from the previous two stages. The question assessing character types, for example, asked respondents' level of agreement with how well a character description matched their character. One meant least in agreement and five meant most in agreement. In addition, a new question relating to travel behaviour was also inputted into the survey. The question asked respondents to circle the trait they identify with most while travelling. Examples included travel by coach or car, and seek own information or wait for information. These questions capture the psychographic behaviour of the tourists and are therefore very informative.

Administration of the survey-questionnaire

Blarney was chosen as the primary data collection point because it is a regular stop for coach tours. Coach tour duration was between seven to fifteen days. Tour length depended on the tour type chosen. With the tour operators' permission,⁵² bus drivers were contacted and arrangements were made to meet the buses in Blarney. Tourists were greeted on the bus, and an explanation of the research at hand was provided. To maximise response rates, questionnaires for every tourist were left on the bus. Survey completion could therefore be carried out at the tourist's own pace over the remainder of the tour. Completed questionnaires were collected by the bus drivers. Non-North American responses were disregarded. The questionnaires were then

⁵¹ See Chapter 3 section 3.3.1.4.2.

⁵² Registered tour operators in Ireland were contacted by telephone seeking their permission to access their tourists.

collected the following week⁵³ and the process was repeated over a six month period.⁵⁴

Analysis of the questionnaire

Survey results were entered and analysed using the Statistical Package for the Social Sciences (SPSS) Version 17.0 (SPSS 2009). Each question was inputted per column. Each response inputted per row. Some questions were analysed using descriptive statistics, including frequencies, percentages, means, and cross-tabulations. Questionnaire survey data should, however, be analysed using multivariate techniques (Hair et al. 2006). This research is no different. Multivariate techniques include correlation, factor analysis, regression, cluster analysis, and structural equation modelling (Hair et al. 2006; Malhotra 2004). Acknowledging the study's research questions outlined in chapter one, factor and cluster analyses were used in this research.

Factor analysis summarises the interaction between a large set of variables and explains these using common factors fundamental to each component (Hair et al. 1992). Factor analysis reduces the lengthy lists of variables in the questionnaire. Conversely, cluster analysis classifies respondents into groups displaying similarities in terms of their travel behaviours and psychographics. Cluster segments within the North American coach market to Ireland could thus be identified. These clusters are then further analysed using previously unused variables. Cluster profiles emerge according to the coach tourist's socio-demographics, trip characteristics, motivations, holiday constraints, information sources, character type, and life focus. Responses from the open-ended question are coded, and frequencies of comparable answers are noted. Only responses given by more than five per cent of respondents are recorded. Statistical analysis of this final stage is outlined in the next chapter.

⁵³ When the bus drivers on the same tour, were with the next group of tourists

⁵⁴ Response rates are outlined in chapter 9.

6.4 Response Rates

This section highlights the response rate achieved in the third and final stage of the research process. Permission from the coach tour operators was necessary as they control all aspects of the tour itinerary. Consequently, all registered tour operators in Ireland⁵⁵ catering for North American inbound tourists were contacted, and permission was sought to gain access to their tourists. Two operators, Royal Irish Tours (R.I.T.) and C.I.E Tours, permitted the distribution of the survey on certain tours. The survey respondents on RIT were all Canadian, and the respondents on CIE were all from the US. The researcher had no control over which tours could be surveyed, and did not receive advance notice of which tours could have the survey distributed. Table 6.10 shows the non-response rates (and response rates) achieved in the final stage (phase three) of this study.

Mth	Tour Operator	No. Survey Distrib.	Total Response	% Response Per Tour	% Response Per 511	No. Non-Response⁵⁶	% Of Total (741)
July	R.I.T	43	35	81.39%		8	
July	C.I.E	60	42	70%		18	
Aug	R.I.T	118	81	68.6%		37	
Aug	C.I.E	137	107	78.1%		30	
Sept	R.I.T	160	102	63.75%		58	
Sept	C.I.E	83	57	68.67%		26	
Oct	R.I.T	45	28	62.22%		17	
Oct	C.I.E	35	24	68.57%		11	
Mar	R.I.T	30	13	43.33%		17	
Mar	C.I.E	30	22	73.33%		8	
R.I.T Canadian		396	259	Avg:65%	50.7%	137	18.48%
C.I.E United States		345	252	Avg:73%	49.3%	93	12.55%
Total	R.I.T& C.I.E	741	511	Avg 69%		230	Non resp 31%

⁵⁵ 11 tour operators were contacted with 2 operators agreeing to the survey distribution.

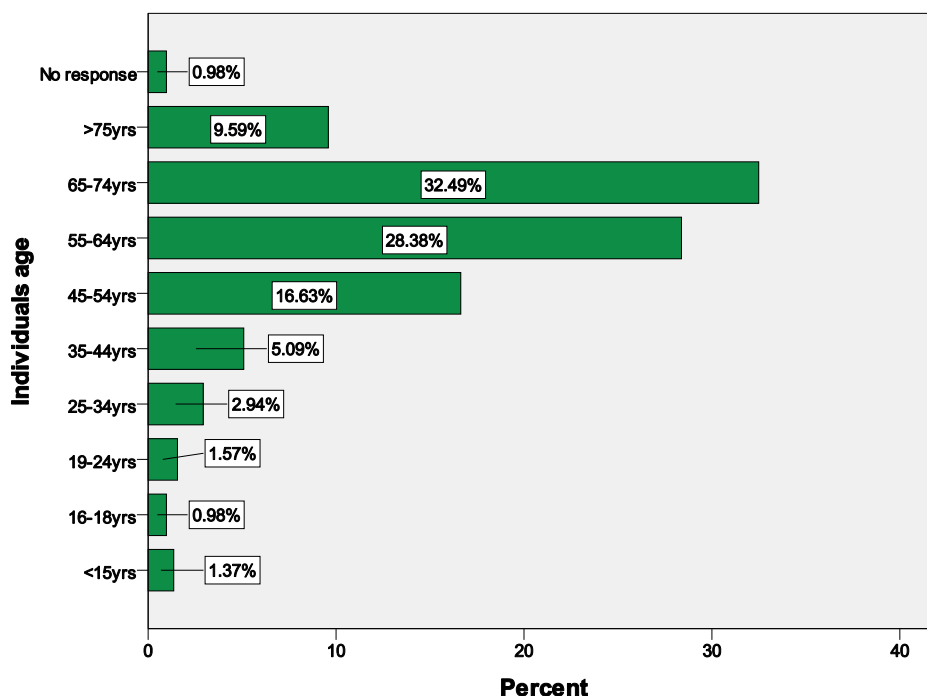
⁵⁶ Non-response analysis is dealt with in section 6.4.1.

Table 6.10, indicates the overall response rate was 69 per cent (with 511 responses). To capture a representative sample of North American tourists, 741 questionnaires were distributed. Data collection was carried out over six months and three seasons, from July 2008 to March 2009. Because it was a voluntary self-completion survey, a response rate of 69 per cent (as outlined in red in Table 6.10) was representative and well above the responses received by Andriotis et al. (2007); Bogari et al. (2004) and Wilton and Nickerson (2006).

The 511 responses were inputted into SPSS (PASW Version 17). Any blank answers were coded “no response”. Table 6.10 also shows forty nine per cent of the respondents were from the United States (C.I.E.) and fifty one per cent of the responses were Canadian (R.I.T). Breakdowns of respondents by state or province of residence are displayed in Appendix E.

A breakdown of respondents per age group can be seen in Figure 6.4. Thirty two per cent (156 respondents) are aged 65-74 years and 28 per cent (136 respondents) are aged between 55-64 years, and 83 respondents (17 per cent) were aged between 45 and 54 years. Thus, 77 per cent (375 of 486) respondents are aged 45+ years. In relation to gender, 45.3 per cent are male and 53.9 per cent are female.

Figure 6.4 Response per age



To increase response rates, trust strategies were used (Dillman 1978). Potential respondents on the tour bus were fully informed about the study's purpose. Survey participation was not compulsory, and completion could be done at leisure. Contact details of the researcher were also provided so respondents could contact the researcher regarding any queries or concerns. Nevertheless, to limit any non-response bias, an assessment of non-respondents was conducted.

6.4.1 Non- Response Rates

Non-response analysis determines whether the travel behaviour of non-respondents varies from that of respondents (Veal 1997). Non-response bias is present in tourism research when some tourists for example, refuse to complete the survey for reasons such as wanting to relax on a holiday (Veal 2005). Non-response in a survey can create unacceptable reductions of sample size and can increase bias (De Vaus 1995), affecting the reliability and validity of results (Nunnally and Bernstein 1994).

Table 6.10 shows that 31 per cent (230 tourists) of the distributed surveys were non-response. To minimise biasness, a sample of 10 per cent of these non-responses were chosen for inclusion in the non-response analysis. Given the nature of the distribution of this research questionnaire, with the bus drivers agreement the researcher approached two tour groups at the end of coach trip. One tour ended in Dublin, the other ended in Shannon. At these meeting points, the researcher requested to speak with those who had not completed the survey and similar to Shoemaker (1989, 2000), a subset of questions from the original questionnaire were used in the non-response collection stage.

Twenty-three non-respondents from these tours, ten males, and thirteen females were assessed to determine whether their travel behaviours differed from that of the respondents. Ten respondents aged between 65-74 years, six respondents aged between 55-64 years, four aged between 45-54 years and three aged 75+ years were included in the non-response analysis. Table 6.11 presents a breakdown of these non-respondents.

Age	Males	Females	State/Province
65-74	4	6	5 Ontario; 2 New York; 1 California; 2 Alberta
55-64	3	3	1 Ontario; 1 British Col; 1 New Jersey; 1 Florida; 1 Ohio; 1 Texas
45-54	2	2	1 Quebec; 1 Delaware; 1 Mass; 1 Washington
75+	1	2	1 Ontario; 1 Arizona; 1 Connecticut

Results indicated there was no difference in the travel behaviour of respondents and non-respondents. The reason for non- response was based on four common replies.

1. The respondents' spouse or another member of their travelling party completed the survey. The non-respondent decided no marginal benefit could be gained from their response;

2. The non-respondents thought the survey was too long and felt no need or desire to complete it, particularly while on summer vacation (a problem noted in Veal (2005));
3. Some respondents were in Ireland for only five days, non-respondents thought this visit too short to have a valued opinion to complete the survey appropriately;
4. Respondents did not want to waste their vacation time completing a survey.

When 23 non-respondents were briefly asked some of the survey questions, their responses did not differ from that of the respondents. Similar to the respondents, non-respondents' work status varied from being retired to working. All love cultural holidays and activity holidays or holidays dedicated to families. Some want to travel more in the next few years while lack of money was the only travel constraint. The majority of non-respondents said they would possibly revisit Ireland. Wanting to see other places was the main reason for not revisiting Ireland. Some considered themselves traditional, others considered family very important, and others considered themselves independent minded. Overall, responses were not at variance with those who did respond.

6.6 Conclusion

The chapter answered research task two listed in chapter one, "Devise a unique instrument (questionnaire) to analyse the North American coach tourist market in Ireland". The chapter assessed and justified the methodological choices made in conducting the primary research. A unique questionnaire was devised. The research design and the mixed methods approach were explained. The implementation of the three phases of primary research was detailed. The methodological processes involved in this research were illustrated. A large-scale self-administered captive group survey, assessing the North American coach tourist market, completes the primary research of this study. Response and non-response of the final survey were also described.

The chapter provided the data to remedy a gap in Irish segmentation literature. The chapter outlined how the data used to answer the final research aim: “Develop a comprehensive segmentation model, using factor analysis and cluster analysis to assess the travel behaviours (trip type, holiday activities etc.), and psychographic behaviours (life focus, character types of tourists etc.) of the North American coach tourist visiting Ireland.” This study remedies a gap in the published literature on Irish tourism by using a combined segmentation approach, along with factor analytical and clustering techniques to identify cluster segments within the North American coach tourist industry in Ireland. The findings from applying these techniques are detailed in the next chapter.

CHAPTER SEVEN: RESULTS OF FACTOR AND CLUSTER ANALYSIS

7. Introduction

This chapter applies factor and cluster analysis to the final large-scale questionnaire. Section 7.1 presents the findings from running suitability tests for factor analysis. Subsections 7.1.1 to 7.1.6 inclusive derive the most interpretable independent factors. These factors are then carried through to the next stage of the analysis, cluster analysis. Section 7.2 summarises the factor analysis findings. Section 7.3 presents the steps in cluster analysis. Subsection 7.3.1 describes the partitioning, variable choice, and outlier detection step of cluster analysis. Section 7.4 interprets the clusters. Section 7.5 validates the cluster solution. Section 7.6 profiles the clusters, and Section 7.7 provides the main conclusions.

7.1 Factor Analysis

Running suitability tests, i.e. Bartlett's test of sphericity and Kaiser-Meyer-Olkin (KMO)⁵⁷ meant six questions in the study's questionnaire could be factor analysed⁵⁸. The six questions relate to:

- push motivations to travel;
- pull motivations to travel;
- activities participated in while on vacation;
- constraints preventing travel;
- life focus of respondents over the next five to ten years;
- level of agreement on various character types.⁵⁹

⁵⁷ See chapter 4, Sections 4.2.3.1 and 4.2.3.2 for more on these tests.

⁵⁸ Appendix F displays these KMO and Bartlett's test findings.

⁵⁹ The six factor analysed questions can be seen in Appendix G.

Sixty-seven items underpin these six questions. Results from the factor analyses of each of these six questions are presented in the following subsections.

7.1.1 Push motivations

The push motivation question deals with factors that influence, i.e. push the North American coach tourist to go on (any) holiday. Nine items are listed in this question, and respondents rate each push factor on a scale of one to five in terms of importance. Principal component factor analysis applied to the nine items revealed the presence of two factors with eigenvalues exceeding 1.0, explaining 53.4 per cent of the variance. The two principal factors are presented in Table 7.1.

Factor	Eigenvalues	% of Variance explained
1	3.25	36.12
2	1.56	17.31

The results of Table 7.1 are summarised as follows:

- Factor one resulted in an eigenvalue of 3.25 and explained 36.12 per cent of the variance.
- Factor two had an eigenvalue of 1.56 and explained 17.31 per cent of the variance.
- By summing the percentage of variance explained for the two factors, 53.4 per cent of the total variance is explained.
- The Scree Plot also confirms the extraction of two factors⁶⁰. All three retention methods⁶¹ are consequently satisfied.

Table 7.2 summarises the rotated factor loadings for each individual item. Only factor loadings greater than 0.4 are presented.

⁶⁰ See Appendix H for the Scree plots.

⁶¹ See chapter 4 section 4.4 for more on retention methods.

Table 7.2 Push Motivations		
Item	Factor Component	
	Factor one loading	Factor two loading
To learn new things	0.788	
Experience new culture	0.782	
For personal growth	0.774	
For adventure	0.634	
For rest and relaxation		0.714
Opportunity for romance		0.667
For nostalgia purposes		0.647
To escape		0.633
Quality time with family/spouse		0.597
<i>Extraction Method: Principal Component Analysis; Rotation Method: Varimax</i>		

A two factor rotated solution showed a number of strong loadings on two factors with each of the nine items loading substantially on only one factor. Factor one consists of four items. The factor loadings on factor one ranged from 0.634 to 0.788. The four items ‘learn new things’ (0.788), ‘experience new culture’ (0.782), ‘personal growth’ (0.774), and ‘adventure’ (0.634) represent the tourists’ desire to learn while on holiday and consequently factor one is labelled ‘*Educational*’. Factor two consisted of five items. The items’ factor loadings ranged from 0.597 to 0.714 on factor two. The five items ‘rest and relax’ (0.714), ‘opportunity for romance’ (0.667), ‘for nostalgia purposes’ (0.647) ‘to escape’ (0.633) and ‘quality time with family/spouse’ (0.597) represent the tourists’ desire to take it easy and unwind while on holiday. Consequently, factor two is labelled ‘*rest/relaxation*’. Pull motivations were the next question factor analysed.

7.1.2 Pull Motivations

Pull motivations examine the important factors North American coach tourists take into account when choosing a holiday destination. Eight items are listed in this question. Table 7.3 presents the percentage of variance explained and associated eigenvalues.

Table 7.3 Influence choice of destination (Pull motivation)		
Factor	Eigenvalues	% of Variance explained
1	2.99	37.41
2	1.30	16.30

The results of Table 7.3 are summarised as follows:

- Factor one resulted in an eigenvalue of 2.99 and explained 37.41 per cent of the variance.
- Factor two had an eigenvalue of 1.30 and explained 16.30 per cent of the variance.
- By summing the percentage of variance explained for the two factors, 53.7 per cent of the total variance is explained.
- The Scree Plot also confirms the extraction of two factors⁶²

Table 7.4 summarises the rotated factor loadings for each individual item. Only factor loadings greater than 0.4 are presented.

Table 7.4 Pull Motivations		
Item	Factor Component	
	Factor one loading	Factor two loading
Nice weather	0.758	
Good value for money	0.728	
A safe and secure location	0.634	
Ease of getting there	0.635	
Availabilty of high quality accommodation	0.606	
Interesting history		0.845
Quality of scenery		0.685
Recommendation from friends		0.643
<i>Extraction Method: Principal Component Analysis; Rotation Method: Varimax</i>		

A two factor rotated solution showed a number of strong loadings on two factors with all eight items loading substantially on only one factor. Factor

⁶² See Appendix H for the Scree plot.

one consists of five items. The factor loadings on factor one ranged from 0.606 to 0.758. The five items ‘nice weather’ (0.758), ‘good value for money’ (0.728) ‘safe and secure location’ (0.635), ‘ease of getting there’ and ‘availability of high quality accommodation’ (0.606) are primarily location features and consequently factor one is labelled ‘*Location Attributes*’.

Factor two consists of three items. The items’ factor loadings ranged from 0.597 to 0.714 on factor two. The three items ‘interesting history’ (0.845), ‘quality of scenery’ (0.685), ‘recommendation from friends’ (0.643) represent the physical attractions of a destination. Factor two is consequently labelled ‘*Physical Attributes*’. Holiday activities were the next question factor analysed.

7.1.3 Holiday Activities

The third question suitable for factor analysis assesses the North American coach tourists’ preferred holiday activities. Eighteen common activities are listed with respondents rating each activity on a scale of one to five in terms of their importance while on holiday. Table 7.5 displays the principal component analysis, eigenvalues, and variance explained.

Factor	Eigenvalues	% of Variance explained
1	7.40	41.07
2	1.64	9.10
3	1.53	8.51
4	1.10	6.10

The results of Table 7.5 are summarised as follows:

- Factor one resulted in an eigenvalue of 7.40 and explained 41.07 per cent of the variance.
- Factor two had an eigenvalue of 1.64 and explained 9.10 per cent of the variance.

- Factor three had an eigenvalue of 1.53 and explained 8.51 per cent of the variance.
- Factor four had an eigenvalue of 1.10 and explained 6.10 per cent of the variance.
- By summing the percentage of variance explained for all four factors, 64.77 per cent of the total variance is explained.

Table 7.6 summarises the rotated factor loadings for each individual item. Yet again, only factor loadings greater than 0.4 are presented.

Items	Factor Component			
	Factor one	Factor two	Factor three	Factor four
Cycling	0.854			
Water-sports	0.826			
Equestrian	0.817			
Golf	0.731			
(Hill)walking/hiking	0.708			
Spa treatments/massage	0.633			
Spiritual activities	0.583			
Artistic and literary activities	0.563			
Fine dining		0.822		
Music/Food		0.752		
Shopping		0.708		
Theatre act/stage show		0.561		
Historical activities			0.794	
Museum/art gallery			0.739	
Nature activities			0.545	
Guided tours/excursions			0.529	
VFR				0.790
Tracing roots/Genealogy				0.589

Extraction Method: Principal Component Analysis; Rotation Method: Varimax

A four factor rotated solution showed a number of strong loadings on four factors with all eighteen items loading substantially on only one factor. Factor one consists of eight items. The factor loadings ranged from 0.563 to 0.854. Factor one includes active, sporty activities including, *inter alia*,

'cycling' (0.854), 'water-sports' (0.826), 'equestrian' (0.817) and 'golf' (0.731). Factor one is therefore labelled '*Physical activity*'. Factor two attained factor loadings ranging from 0.561 to 0.822. High factor loadings on activities such as 'fine dining' (0.822), 'music/food' (0.752), and 'shopping' (0.708) represent the tourists' desire to participate in indulging activities. Factor two is consequently labelled '*indulging/entertainment activities*'.

Factor loadings on factor three ranged from 0.529 to 0.739. The third factor includes cultural items such as 'historical activities' (0.794), 'museum and art gallery activities' (0.739), 'nature activities' (0.545), and 'guided tours and excursions' (0.529). Factor three is therefore labelled '*cultural activities*'. The factor loadings on factor four were 0.589 and 0.790. Items in this factor represent family activities including 'visiting relatives and friends' (0.790) and 'tracing roots and genealogy' (0.589). The fourth factor is therefore labelled '*family orientated activities*'.

Factor analysis therefore presents a more concise spectrum of activities. North American coach tourists are now categorised into four activities as opposed to the original eighteen. The findings from the Bartlett's test of sphericity and Kaiser-Meyer-Olkin (KMO) confirmed travel constraints are the next question suitable for factor analysis.

7.1.4 Travel constraints

The travel constraints question asks whether certain travel constraints curtail a tourist from travelling. Nine common constraints are listed in this question. Table 7.7 presents the percentage of variance explained and associated eigenvalues.

Factor	Eigenvalues	% of Variance explained
1	3.46	38.45
2	1.07	11.91

The results of Table 7.7 are summarised as follows:

- Factor one resulted in an eigenvalue of 3.46 and explained 38.45 per cent of the variance.
- Factor two had an eigenvalue of 1.07 and explained 11.91 per cent of the variance.
- By summing the percentage of variance explained for both factors, 50.36 per cent of the total variance is explained.

Table 7.8 summarises the rotated factor loadings for each individual item. Only factor loadings greater than 0.4 are presented.

Items	Factor Component	
	Factor one	Factor two
Fear of terrorism	0.719	
Health problems	0.686	
Lack of interest	0.682	
Pets to look after	0.651	
Lack of a travel companion	0.592	
Family commitments	0.509	
Lack of money	0.446	
Commitments to work		0.841
Lack of time		0.835

Extraction Method: Principal Component Analysis; Rotation Method: Varimax

A two factor rotated solution showed a number of strong loadings on two factors with all nine items loading substantially on only one factor. Factor one consists of seven items. The factor loadings on factor one ranged from 0.446 to 0.719. The seven items represent a tourist's sense of fear due to the very significant factor loadings (> 0.50) on items such as 'fear of terrorism' (0.719), 'health problems' (0.686), and 'lack of interest' (0.682). Factor one is therefore labelled '*Fear constraints*'. Factor two is labelled '*time*'

constraints', because this factor loads significantly on items such as 'commitments to work' (0.841) and 'lack of time' (0.835). Factor analysis was also carried out on respondents' focus in life over the next five to ten years.

7.1.5 Five to Ten Year Focus

Eleven life ambitions are listed in the life focus question. Tourists rated agreement with each life focus on a scale of one to five. Table 7.9 displays the principal component analysis, eigenvalues, and variance explained.

Table 7.9 Importance over the next five to ten years		
Factor	Eigenvalues	% of Variance explained
1	3.64	33.04
2	1.60	14.56
3	1.23	11.21

The results of Table 7.9 are summarised as follows:

- Factor one resulted in an eigenvalue of 3.64 and explained 33.04 per cent of the variance.
- Factor two resulted in an eigenvalue of 1.60 and explained 14.56 per cent of the variance.
- Factor three had an eigenvalue of 1.23 and explained 11.21 per cent of the variance.
- By summing the percentage of variance explained for all three factors, 58.81 per cent of the total variance is explained.

Table 7.10 summarises the rotated factor loadings for each individual item. Only factor loadings greater than 0.4 are presented.

Items	Factor Component		
	Factor one	Factor two	Factor three
Sharing my beliefs with others	0.835		
Working in my dream occupation	0.728		
Strengthening my spiritual faith	0.723		
Developing new skills	0.716		
Technology/gadgets/internet	0.703		
Caring for the environment	0.598		
Family		0.791	
Grandchildren		0.762	
Looking after my health		0.560	
Travelling more			0.784
Enjoying more of life's luxuries			0.597

Extraction Method: Principal Component Analysis; Rotation Method: Varimax

A three factor rotated solution showed a number of strong loadings on three factors with each of the eleven items loading substantially on only one factor. Factor one consists of six items. The factor loadings on factor one ranged from 0.598 to 0.835. The four items ‘sharing my beliefs’ (0.835), ‘working in my dream occupation’ (0.728), and ‘strengthening my spiritual faith’ (0.723) and ‘developing new skills’ (0.716) represent the tourists’ spirituality and desire to educate others. Consequently, factor one is labelled the ‘*Educating Spiritualist*’. Factor two consisted of three items. The items’ factor loadings ranged from 0.560 to 0.791 on factor two. Items include ‘family’ (0.791) and ‘grandchildren’ (0.762). These items represent the tourist’s love of family; consequently, factor two is labelled ‘*Family Focused*’. The final factor, factor three consisted of two items. The items’ factor loadings were 0.597 and 0.784 on factor three. The two items ‘travelling more’ (0.784) and ‘enjoying more of life’s luxuries’ (0.597) represent the tourists desire to travel more with a love of luxury items. The final factor is consequently labelled ‘*Luxurious Wanderer*’.

Factor analysis therefore summarises a larger set of variables into a smaller number of common factors while ensuring a minimum loss of information.

The final question factor analysed measures tourists' level of agreement regarding their character type.

7.1.6 Character Type

Twelve character types are listed in this question. Tourists rated their agreement with each character type on a scale of one to five. Table 7.11 displays the principal component analysis, eigenvalues, and variance explained.

Table 7.11 Level of agreement on personality type		
Factor	Eigenvalues	% of Variance explained
1	3.42	28.52
2	1.50	12.52
3	1.01	8.38

The results of Table 7.11 are summarised as follows:

- Factor one resulted in an eigenvalue of 3.42 and explained 28.52 per cent of the variance.
- Factor two resulted in an eigenvalue of 1.50 and explained 12.52 per cent of the variance.
- Factor three had an eigenvalue of 1.01 and explained 8.38 per cent of the variance.
- By summing the percentage of variance explained for all three factors, 49.42 per cent of the total variance is explained.

Table 7.12 summarises the rotated factor loadings for each individual item. Only factor loadings greater than 0.4 are presented.

Items	Factor Component		
	Factor one	Factor two	Factor three
I am a risk taker	0.677		
I always keep up with new trends	0.671		
I consider myself liberal	0.646		
Modern technology challenges me	0.580		
Financial enrichment is important to me	0.525		
I enjoy being on my own		0.778	
Associate with younger people		0.563	
Cultural enrichment is very important		0.500	
I live a physically active life		0.484	
Traditional values are very important			0.742
I look forward to retiring			0.557
Routine suits me			0.548
<i>Extraction Method: Principal Component Analysis; Rotation Method: Varimax</i>			

A three factor rotated solution showed a number of strong loadings on three factors with each of the twelve items loading substantially on only one factor. Factor one consists of five items. The factor loadings on factor one ranged from 0.525 to 0.677. Some of the items, among others, included ‘risk takers’ (0.677), ‘wanting to keep up with new trends’ (0.671) as well as considering themselves ‘liberal’ (0.646). These items represent the tourists’ trendy, liberal, and risky nature. Consequently, factor one is labelled ‘*Trendy Liberalists*’.

Factor two consisted of four items. The items’ factor loadings ranged from 0.484 to 0.778 on factor two. Two of the four items included ‘enjoy being on their own’ (0.778), and choosing ‘to be associated with younger people’ (0.563). These items represent the tourists’ youthful, independent nature and consequently factor two is labelled ‘*Independent Youths*’. Factor three consisted of three items. The items’ factor loadings ranged from 0.548 to 0.742 on factor three. The three items ‘traditional values as very important’ (0.742), ‘look forward to retiring’ (0.557), and ‘routine suits me’ (0.548)

represent the tourist's traditional nature. Consequently, factor three is labelled '*The Traditionalists*'.

7.2 Summary Factor Analysis

Subsections 7.1.1 to 7.1.6 presented how factor analysis, the first multivariate approach, uncovered the main travel behaviours and psychographic variables characterising the North American coach tourist. Table 7.13 presents a summary of the newly labelled extracted factors per variable theme.

Variable Theme	Factors Extracted
<i>Push Motivations</i>	Factor one – Educational Factor two – Rest/Relaxation
<i>Pull Motivations</i>	Factor one – Location Attributes Factor two – Physical Attributes
<i>Activities</i>	Factor one – Physical Activities Factor two – Indulging and Entertainment activities Factor three – Cultural Activities Factor four – Family Orientated Activities.
<i>Travel Constraints</i>	Factor one – Fear Constraints Factor two – Time Constraints
<i>Focus Over Next 5-10 years</i>	Factor one – Educating Spiritualist Factor two – Family Focused Factor three – Luxurious Wanderer
<i>Character Type</i>	Factor one – Trendy Liberalist Factor two – Independent Youth Factor three – Traditionalist

These newly labelled factors must now be cluster analysed so the overall aim outlined in Chapter one “develop a comprehensive segmentation model specifically targeting the travel behaviour and psychographics of the North American coach tourist in Ireland” can be completed.

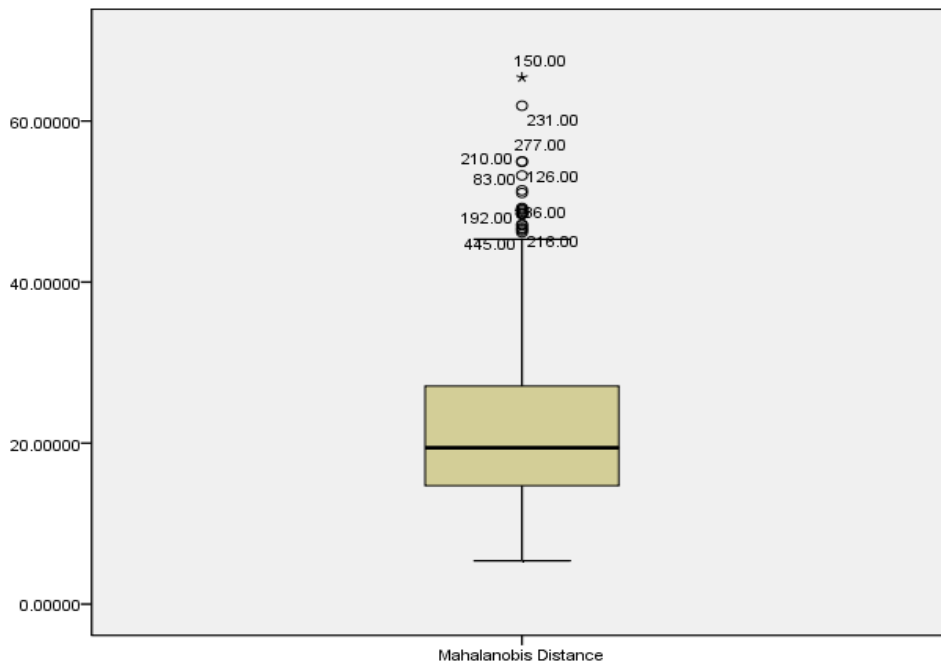
7.3 Cluster Analysis

This section presents the results from the second multivariate technique, cluster analysis. Using the partitioning, interpreting, validating, and profiling⁶³ steps, this section groups the sampled North American coach tourist into cluster groups. Subsection 7.3.1 describes the partitioning process of cluster analysis. Section 7.4 interprets the clusters. Section 7.5 validates the cluster solution. Section 7.6 profiles the clusters, and section 7.7 concludes the chapter.

7.3.1 Partitioning - Variable Choice and Outlier Detection

The variables chosen for partitioning the dataset are the extracted factors listed in Table 7.13. To reduce the probability of error, three outlier detection methods⁶⁴ are collectively applied and twenty-five cases are removed from the sample. These cases are not representative of the population. As a result, the sample size is reduced to 486 cases. The Mahalanobis distance box-plot calculated for this new sample size is illustrated in Figure 7.1.

Figure 7.1 Box Plot of Mahalanobis Distance



⁶³ See Chapter 5, Sections 5.2.1-5.2.3 for more on these processes.

⁶⁴ See Chapter 5, sections 5.2.1.2.1- 5.2.1.2.3 for more on outlier detection.

Although outliers remain (for example case numbers 231,150,277), figure 7.1 shows the cases are not extreme. The sample is now standardised⁶⁵, similarity is measured, and hierarchical and non- hierarchical clustering algorithms are applied.

Hierarchical Cluster Analysis

Hierarchical clustering analysis/procedure (HCA)⁶⁶ is performed on the sixteen standardised (Z score) variables and a plot of the agglomerative coefficient versus the number of clusters is obtained. Figure 7.2 illustrates this plot.

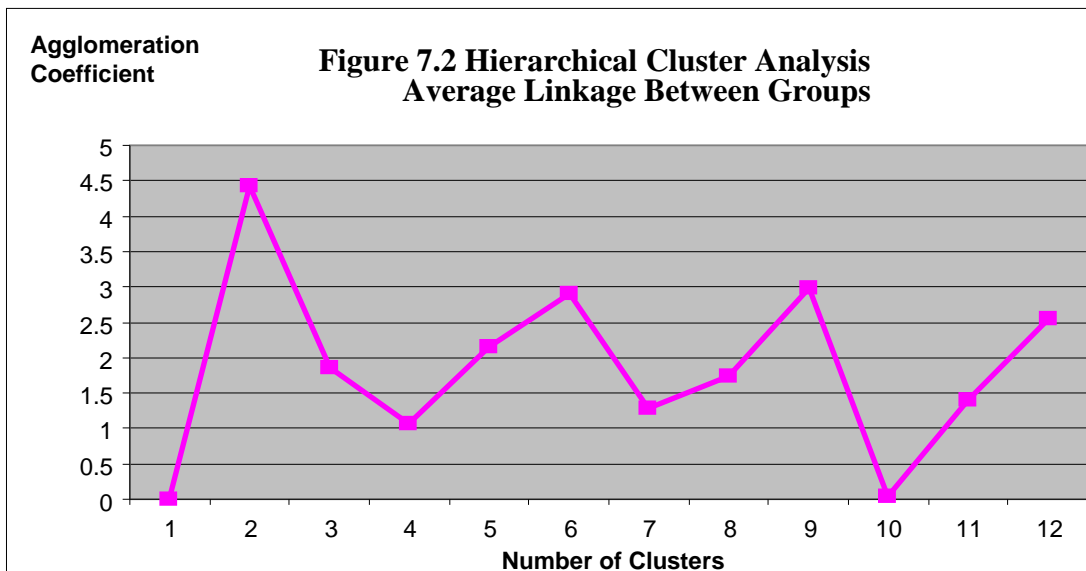


Figure 7.2 shows the sample is most likely a four-cluster solution (i.e. the area where the line starts to increase is at four-clusters). Nevertheless, the three, four, five, six and seven cluster solutions⁶⁷ (K= 3, 4, 5, 6, 7) are also analysed. Differences between the clustering coefficients are calculated and presented in Table 7.14. The four-cluster solution is the most appropriate.

⁶⁵ See Chapter five, Section 5.2.1.3 for more on standardisation

⁶⁶ See Chapter 5, section 5.2.1.5.1 for more on HCA.

⁶⁷ See Appendix I for these hierarchical cluster solutions.

Table 7.14 Percentage change in Agglomerative Coefficients; Average Linkage Method				
Cluster	Clustering Coefficient 1	Clustering Coefficient 2	Differences between both coefficients	Percentage change %
10	52.887	53.304	0.417	0.79%
9	53.304	54.574	1.27	2.38%
8	54.574	57.022	2.448	4.48%
7	57.022	58.554	1.532	2.68%
6	58.554	59.377	0.823	1.4%
5	59.377	60.914	1.537	2.59%
4	60.914	64.655	3.741	6.14%
3	64.655	65.493	0.838	1.29%
2	65.493	70.073	4.58	6.99%
1	70.073	-		

The large percentage increase from a four-cluster solution to a three-cluster solution, i.e. a 6.14 percentage change, indicates there is a great deal of heterogeneity between clusters. An inspection of the dendrogram⁶⁸ also confirms a four cluster solution. Different clustering algorithms, however, often point to different solutions. Consequently, HCA is performed again, with other clustering agglomerative algorithms including within groups, centroid, ward's, and median linkage methods⁶⁹. The solutions⁷⁰ also confirm a four-cluster solution. A four-cluster solution is therefore selected from the hierarchical clustering analysis (HCA), and is consequently inputted into the non-hierarchical K-means analysis procedure.

The means of the standardised variables for the four-cluster solution are presented in Table 7.15.

⁶⁸ See chapter 5, section 5.2.1.5.1 for more on dendrogram.

⁶⁹ See chapter 5, section 5.2.1.5.1 for more on these methods.

⁷⁰ Appendix I presents these clustering algorithms.

Table 7.15 Means of the standardised cluster variables for the four-cluster solution				
Cluster Variables	Cluster 1	Cluster 2	Cluster 3	Cluster 4
	Mean	Mean	Mean	Mean
Activities				
Physical	-0.27	1.28	0.28	-0.49
Indulging/ Entertainment	-0.40	0.62	-0.57	0.43
Cultural	0.62	0.65	-0.76	-0.39
Family Oriented	-0.28	0.54	-0.20	0.14
Motivation: Push				
Educational	0.42	0.96	-0.54	-0.47
Rest/Relaxation	-0.75	1.28	-0.06	0.16
Motivation: Pull				
Location Attributes	-0.56	0.62	-0.41	0.49
Physical Attributes	0.28	1.05	-0.78	-0.24
Constraints				
Fear	-0.04	.13	0.21	-0.15
Time	-0.10	.46	-0.64	0.27
Focus Over Next 5-10 yrs				
Educating Spiritualist	-0.13	1.00	-0.04	-0.29
Family Focused	-0.02	0.18	-0.56	0.27
Luxurious Wanderer	0.03	0.10	-0.26	0.09
Character Type				
Trendy Liberalist	-0.27	0.74	0.13	-0.16
Independent Youth	0.36	0.39	-0.20	-0.38
Traditionalist	-0.13	0.36	-0.92	0.51

The centres (means) from Table 7.15 are used as initial seed points in the non-hierarchical K-mean cluster analysis. Nevertheless, to confirm a four cluster solution, the three, five, six and seven solutions, (K= 3, 5, 6, 7) are examined. These cluster solutions are presented in Appendix J.

The means for the sixteen unstandardised variables for the four-cluster solution are presented in Table 7.16.

Table 7.16 Means of the un-standardised variables for four-cluster solution				
Cluster variables	Cluster 1	Cluster 2	Cluster 3	Cluster 4
	Mean	Mean	Mean	Mean
Activities				
Physical	1.55	0.08	-0.04	-0.45
Indulging/Entertain	0.60	-0.48	0.40	0.09
Cultural	0.36	-0.14	0.73	0.00
Family Oriented	0.29	-0.31	0.71	-0.09
Motivation: Push				
Educational	0.71	-0.04	0.80	-0.49
Rest/Relaxation	1.47	-0.33	0.35	-0.26
Motivation: Pull				
Location Attributes	0.24	-0.57	0.71	0.21
Physical Attributes	0.62	-0.24	1.00	-0.32
Constraints				
Fear	-0.23	0.22	0.28	0.38
Time	0.18	-0.69	0.37	0.17
Focus Over Next 5-10 yrs				
Educating Spiritualist	0.30	-0.12	1.55	-0.42
Family Focused	0.21	-0.45	0.99	0.22
Luxurious Wanderer	0.28	0.14	-0.01	-0.15
Character Type				
Trendy Liberalist	1.36	0.08	-0.15	-0.36
Independent Youth	0.70	0.90	0.07	-0.40
Traditionalist	0.57	-0.84	0.26	0.87

The means from Table 7.16 are used to interpret and label the four-cluster solution. To ensure the reliability and validity of the results (Milligan 1980; Punj and Stewart 1983), the initial four-cluster solution from the hierarchical cluster analysis is compared with the three, five, six and seven (K= 3, 5, 6, 7) cluster solutions in the non-hierarchical procedure. ANOVA tests and probability plots of the residuals are examined⁷¹ while Shapiro-Wilk and Kolmogorov-Smirov⁷² tests ensure normality⁷³. Statistically significant differences (all P values < .001) are obtained for all solutions (K = 3, 4, 5, 6 and 7). Tukey's post-hoc tests⁷⁴ reveal that the four-cluster solution is the only solution where all four-clusters are significantly

⁷¹ The residual plots along with histograms, for all sixteen-cluster variables in the four-cluster solution, can be found in Appendix K.

⁷² See section 5.2.3 for more on these tests.

⁷³ These tests of normality can be seen in Appendix K.

⁷⁴ Tukey's Solution for the four-cluster solution on all sixteen variables can be seen in Appendix L.

different (all P values < 0.001) from one another on fifteen⁷⁵ of the sixteen variables.

Tukey's post hoc tests (for the three, five, six, and seven cluster solutions) found that, for some of the variables, there is no difference between some of the clusters. For example, the three cluster solution showed no differences between cluster one and cluster three for educating spiritualist (P-value = 0.645) and cluster three and cluster two for educational attribute (P-value = 0.942). The five cluster solution showed no differences between cluster two and cluster five for cultural activities (p-value = 0.776), and between cluster four and cluster three for family focused (p-value = 0.489). The six cluster solution showed no differences between cluster four and cluster five for location attributes (p-value = 0.996), and between cluster three and cluster six for physical attributes (p-value = 0.562). The seven cluster solution showed no differences between cluster one and cluster five for variable indulging/entertainment activities (p-value = 0.896), and between cluster six and cluster three for the variable family orientated activities (p-value = 0.641). The hierarchical and non-hierarchical clustering algorithms therefore deem the four-cluster solution as distinct. The four-cluster solution is the only solution where all clusters are significantly different. The next step is to interpret these four clusters.

7.4 Interpreting the Clusters

The second step in cluster analysis interprets the clusters to determine a suitable name for each cluster. To do this, a description must be assigned to the means. The refined regression method⁷⁶ creates factor scores using values ranging from minus three to plus three (DiStefano et al. 2009). The

⁷⁵ An equivalent non-parametric test, the Kruskal - Wallis test and the Mann Whitney test was carried out on one variable 'fear constraints' to compare mean ranks across the groups. Results indicated there was in fact agreement between results. (Appendix M presents these results). Following these tests, the Fear Constraint variable is deemed valid.

⁷⁶ The refined regression method is the method used (in SPSS) to devise the factor score means in this work. The method estimates factor score coefficients with a mean of zero and variances equal to the squared multiple correlations between items and the factors.

researcher's descriptions of these values are shown in Appendix N. Descriptions for the four-cluster solution⁷⁷ are presented in Table 7.17.

Table 7.17 Description of Means				
Cluster Variables	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Activities				
Physical	√	N	N	X
Indulging/ Entertainment	√	X	N	N
Cultural	N	X	√	N
Family Oriented	N	X	√	N
Motivation: Push				
Educational	N	N	√	X
Rest/Relaxation	√	X	N	N
Motivation: Pull				
Location Attributes	N	X	√	N
Physical Attributes	N	N	√	X
Constraints				
Fear	X	N	√	√
Time	N	X	√	N
Focus Over Next 5-10 years*				
Educating Spiritualist	N	N	√	X
Family Focused	N	X	√	N
Luxurious Wanderer	√	N	N	X
Character Type*				
Trendy Liberalist	√	N	N	X
Independent Youth	N	√	N	X
Traditionalist	N	X	N	√

*questions asked level of agreement.

Table 7.17, shows three symbols. The red (√) indicates a high level of importance⁷⁸ or agreement, relative to the other clusters. The blue (X) indicates a high level of unimportance⁷⁹ or disagreement, relative to the other clusters. The (N) indicates a neutral perspective i.e. neither important nor unimportant and neither agree or disagree. The table can therefore

⁷⁷ A similar process was completed for the three, five, six and seven cluster solutions (i.e. K = 3, 5, 6, and 7). However, assigning descriptions to these solutions proved difficult as clusters are not as distinguished on some of the variables. The (K = 3, 5, 6, 7) solutions contained clusters that overlapped and were difficult to interpret. The four-cluster solution is therefore the most interpretable, most efficient, and manageable for explaining the tourists.

⁷⁸ Rate the variable 4 or 5 out of a possible 5 in the questionnaire, where 5 is most important and 1 is least important.

⁷⁹ Rank the variable 1 and 2 out of a possible 5 in the questionnaire, where 1 is not important at all and 2 is mildly unimportant.

describe the definitive characteristics of each of the four clusters. Accordingly, a suitable name for each cluster can be determined. A summary of the characteristics of each cluster are outlined below.

Cluster 1

Table 7.17 shows, relative to the other clusters, tourists in cluster one place high importance on and a desire to part-take in physical activities and indulging and entertainment activities while on holiday. Relative to the other clusters, cluster members are active, participating in a wide range of activities at a destination, such as walking (35.7 per cent)⁸⁰, golfing (23.7 per cent), equestrian (16.6 per cent), and cycling (11.9 per cent). In addition, cluster members consider fine dining (79.1 per cent), nature (50.1 per cent), and music and food (42.9 per cent) as important indulgent activities to participate in while on holiday. In terms of motivations to travel, of all the clusters, these tourists consider rest and relaxation as an important travel motivator. Specifically (and relative to the other clusters), these tourists consider wanting to rest and relax (54.8 per cent), wanting to escape (38 per cent), an opportunity for romance (33.3 per cent), and nostalgia (33.2 per cent) as the most important motivations to go on any holiday. Fear is not a travel constraint for tourists in this cluster. Relative to the other clusters, fear variables such as lack of interest (90.5 per cent), fear of terrorism (81 per cent), lack of a travel companion (81 per cent) and health problems (69 per cent) do not prevent tourists in this cluster from travelling.

Relative to the other clusters, these tourists are luxurious wanderers. Cluster members consider travelling more (71.3 per cent) and enjoying more of life's luxuries (52.3 per cent) as important life focuses over the next five to ten years. In terms of character type, these tourists consider themselves trendy and liberal. Specifically, tourists in this cluster (over any other cluster) consider themselves risk takers (38.1 per cent) and liberalists (50

⁸⁰ Percentages in parentheses indicate the percentage of respondents rating the activity as important (4 or 5 out of a possible 5)

per cent). Finally, tourists in this cluster, relative to the tourists in the other clusters, like to keep up with new trends (50 per cent), while financial enrichment is also important to them (61.9 per cent).

Tourists in cluster one could therefore be classified as active, trendy, fearless, indulging, and liberal. Cluster one is consequently labelled: *The Active Indulgers*.

Cluster 2

Table 7.17 shows tourists in cluster two regard ‘indulging/entertainment activities’ and ‘family oriented activities’ as unimportant.⁸¹ Relative to the other clusters, tourists in this cluster do not regard shopping (73.5 per cent), theatre (72.2 per cent), visiting family and friends (71 per cent), fine dining (61.1 per cent), or music/food (40.8 per cent) as important activities to do while on holiday. Tourists in this cluster also consider tracing roots (88.2 per cent), and cultural activities as unimportant while on holiday. Relative to the remaining clusters, these tourists consider items such as historical activities (63.6 per cent), visiting museums (63 per cent), and guided tours (56.2 per cent) as unimportant.

Additionally, tourists in this cluster do not consider location attributes as a key travel motivator when choosing a destination. Of all the clusters, items such as good value for money (34.5 per cent), safe and secure location (35.8 per cent), interesting history (41.4 per cent), recommendation from friends (70.3 per cent), and ease of getting there (51.3 per cent) are particularly unimportant to these tourists’ when making travel decisions. Of all the clusters, cluster members do not consider time a travel constraint. In comparison to the other clusters, lack of time (72 per cent) and commitments to work (34 per cent) do not act as travel barriers. In comparison to the other clusters, tourists in this cluster do not consider family as an important focus over the next five to ten years. Specifically,

⁸¹ Unimportant: i.e. ranking the variable 1 and 2 out of a possible 5 in the questionnaire.

cluster members do not consider family (15.5 per cent), grandchildren (49.4 per cent) and looking after their health (16.1 per cent) as important issues over the next five to ten years. Tourists in this cluster are, however, the most independent and youthful of all the clusters. Cluster members enjoy being on their own (76.6 per cent), they choose to associate with younger people (72.2 per cent) and they live a physically active life (87.1 per cent) (albeit not on holiday). Tourists in this cluster are also the least traditional of all the clusters. Over half (56.2 per cent) do not consider traditional values as important. In addition, these tourists are not looking forward to retirement (43.8 per cent), and routine does not suit them (79.6 per cent).

Tourists in this cluster could therefore be classified as independent and youthful but not family focused, not cultural, not indulging, and not traditional. Cluster two is consequently labelled: *The Family Free Independents*.

Cluster 3

In comparison to the other clusters, tourists in cluster three are the most cultural. Cluster members rate cultural activities, such as guided tours (86.9 per cent), historical activities (81.6 per cent), and visiting museums (71.8 per cent) as important cultural activities to do while on holiday. Relative to the other clusters, tourists in this cluster are the most family oriented with 70 per cent ranking visiting family and friends as important.

Tourists in this cluster are motivated to travel for educational purposes. Of all the clusters, tourists in this cluster rate experiencing a new culture (78.3 per cent), personal growth (75 per cent), adventure (72.9 per cent) and learning new things (83.6 per cent) as important motivators to go on holiday. Relative to the other clusters these tourists consider 'physical attributes' as important motivations to travel. In particular, scenery (83.7 per cent), high quality accommodation (77.2 per cent), and nice weather (76 per cent) are particularly important physical attributes attracting these tourists to a destination. Relative to the other clusters, tourists in this cluster

consider 'location attributes' as important. Items such as safe and secure location (84.7 per cent), ease of getting there (78.2 per cent), interesting history (82.6 per cent), good value for money (86.9 per cent), and recommendation from friends (68.5 per cent) are all important location attributes to the tourists in this cluster.

Relative to the other clusters, travel constraints are an issue for the tourists in cluster three. Time constraints such as commitments to work (59.8 per cent) and lack of time in general (55.4 per cent) act as travel barriers for these tourists. Fear is also a constraint for the tourists in this cluster. Over any other cluster, fear of terrorism (12 per cent), health problems (16.3 per cent), family commitments (41.3 per cent), and lack of money (47.8 per cent) are barriers preventing these tourists from travelling. Tourists in cluster three are also the most family focused of all the clusters. Relative to the other clusters, cluster members consider family (96.8 per cent), grandchildren (77.1 per cent) and looking after their health (94.6 per cent) as important life focuses over the next five to ten years. Relative to all the other clusters, tourists in this cluster consider themselves 'educating spiritualists'. Items such as strengthening spiritual faith (68.5 per cent), developing new skills (77.2 per cent), and sharing beliefs with others (51.1 per cent), are particularly important to these tourists.

Tourists in cluster three could therefore be classified as cultural, educational, and family focused; their travel, however, is limited by fear and time constraints. Cluster three is consequently labelled: *The Family Focused Culturists*.

Cluster 4

Tourists in cluster four, relative to the other clusters, do not regard 'physical activities' as important activities to do while on holiday. Activities such as equestrian (97.9 per cent), cycling (97.8 per cent), golf (86.8 per cent), and water-sports (86.3 per cent), are particularly unimportant to the tourists in this final cluster. In addition, tourists in this cluster do not consider

educational motivators as an important reason to go on holiday. Items such as wanting to escape (65.9 per cent), experiencing a new culture (47.9 per cent), for personal growth (75.2 per cent), adventure (68.9 per cent) and to learn new things (46.3 per cent), are unimportant motivators for these tourists. Of all the clusters, the 'physical attributes' of a destination are similarly unimportant to these tourists when choosing a holiday destination. Items including quality of scenery (26.8 per cent), availability of high quality accommodation (31.6 per cent) and nice weather (26.9 per cent) are unimportant to these tourists.

In comparison to the other three clusters, the tourists in this cluster are not educating spiritualists. In comparison to the other clusters, sharing their beliefs with others (89.5 per cent), working in their dream occupation (85.3 per cent), strengthening spiritual faith (66.8 per cent), developing new skills (80.5 per cent), technology/gadgets/internet (81 per cent), and caring for the environment (73.1 per cent) are not important life focuses for the tourists in this cluster. In addition, of all the clusters, cluster members do not see themselves as 'luxurious wanderers'. Relative to the other clusters, travelling more (33.2 per cent), and enjoying more of life's luxuries (53.7 per cent) are unimportant to these tourists.

Tourists in this cluster over any other cluster do not consider themselves risk takers (89 per cent). They do not keep up with new trends (84.3 per cent). They do not consider themselves liberal (61.6 per cent). Modern technology challenges the cluster (68.4 per cent) and financial enrichment is not important to them (48.4 per cent). Additionally, tourists in this cluster over any other cluster, do not consider themselves independent youths. These tourists do not enjoy being on their own (63.7 per cent), they do not choose to associate with younger people (83.7 per cent), cultural enrichment is not very important to them (64.2 per cent) and they do not live a physically active life (57.4 per cent). However, of all the clusters, tourists in this group consider themselves traditional. Traditional values are very important to them (94.8 per cent), they look forward to retiring (27.3 per cent), and routine suits them (76.3 per cent) more so, than any other cluster.

Tourists in this final cluster could therefore be classified as traditional, whereby they look forward to retiring and they like routine. However, tourists in this cluster are not physically active; they are not educational, they are not trendy, they are not liberal, and they are not spiritual. Cluster four is consequently labelled: *The Traditionalists*.

The results of this interpretation stage are twofold. Firstly, a description of the four profiles identified diverse travel activities, travel behaviours, travel constraints, life focuses, and character types. Secondly, distinct segments based on these travel and psychographic behaviours are achieved. The names applied to each cluster reflect the dominant travel and psychographic behaviours within each group. The four-cluster solutions are consequently labelled, *The Active Indulgents*, *The Family Free Independents*, *The Family Focused Culturists*, and *The Traditionalists*. These clusters must now be validated.

7.5 Validating the Clusters

The third step in cluster analysis involves validating these clusters. Table 7.18 shows the number of tourists in each of the four clusters.

Cluster		
	1. The Active Indulgents	n = 160 (32.9 per cent)
	2. The Family Free Independents	n = 170 (34.9 per cent)
	3. The Family Focused Culturists	n = 106 (21.8 per cent)
	4. The Traditionalists	n = 50 (10.3 per cent)
	Total	n = 486 (100 per cent)

Table 7.18 shows the *Family Free Independents* are the largest segment, representing 35 per cent of the sample population. The *Active Indulgents* are the second largest cluster consisting of 33 per cent of the sample population. The *Family Focused Culturists* are the third, consisting of 22 per cent of the sample population, and cluster four, the *Traditionalists*, are the smallest segment consisting of just 10 per cent of the sampled population. A cross-

validation method⁸² must now be used to validate these clusters. The aim is to demonstrate, and illustrate, the stability and accuracy of the final four-cluster solution. Validating these four-clusters involves randomly splitting the sample in two, and each half is then cluster analysed separately⁸³. Although the order of the clusters changed (cluster one became *The Traditionalists*, cluster two, *The Active Indulgers*, cluster three, *The Family Focused Culturists*, and cluster four, *The Family Free Independents*), the split sample produced similar means and the findings within each cluster for each sample are similar⁸⁴. The validation stage therefore ensured the four-cluster solution is a stable and accurate representation of the entire sample. The final stage of cluster analysis, the profiling stage, is outlined in the next section.

7.6 Profiling the Clusters

The final stage in cluster analysis profiles each cluster in detail in terms of their most relevant variables. Profiling also explains how clusters might differ. Previously unused data are used to thoroughly profile the characteristics of each cluster. Examples of unused variables include socio-demographic information such as age, gender, and income, and behavioural variables such as information sources used, duration of stay, and season of travel, among others.

Profiling focuses on describing not what directly determines the clusters but rather on the characteristics of the clusters after they have been identified (Hair 1997). Descriptive statistics distinguish the clusters. For example, deriving the mean scores of each cluster on previously unused variables helps develop cluster profiles. Chi - square tests determine if there is a significant association between the clustering variables and the cluster groupings. The chi - square tests are carried out on the descriptive variables

⁸² See chapter 5 section 5.2.3

⁸³ Appendix O shows the numbers in each cluster post sample split and the resulting means of the standardised variables within each cluster.

⁸⁴ For example, in terms of physical activities, any individual displaying the characteristics of *The Active Indulgers* also displays the same activities as the overall sample.

that are not served as the basis for clustering. Cross tabulations are then used to develop a complete profile of the individuals in each of the newly formed four-clusters. Comprehensive profiles of the four clusters are presented in the next chapter.

7.7 Conclusion

Findings from this chapter successfully confirmed and labelled a four-cluster solution. The chapter proved the multivariate techniques of factor and cluster analysis successfully derived and labelled the North American coach tourist market to Ireland into four distinct clusters. Cluster one was labelled the *Active Indulgers*, Cluster two, the *Family Free Independents*, Cluster three, the *Family Focused Culturists*, and Cluster four, the *Traditionalists*. The findings are unique to Irish tourism, and are unique to published literature regarding Irish tourism segmentation studies. The chapter therefore completes research task three: “Apply the techniques of factor analysis and cluster analysis to identify underlying dimensions (factors) in the variables and highlight specific sub-groups within the North American coach tourist market.”

The chapter explained how factor analysis reduced the original lengthy list of sixty-seven variables to sixteen factors with a minimum loss in information. Detailed findings of the four stages of cluster analysis were presented. The sixteen variables derived in factor analysis were carried through to the cluster analysis stage. Twenty-five outliers were detected and removed using three methods. The sixteen cluster variables were standardised and hierarchical and non-hierarchical analysis was applied using appropriate distance measures and agglomerative algorithms. The three, four, five, six, and seven cluster solutions were also tested, and the chapter explained how normality tests were performed on the cluster variables.

Findings from the first stage of cluster analysis, the partitioning stage, suggested the four-cluster solution was the best solution. The second stage in cluster analysis, the interpretation stage, labelled the clusters using the

unstandardised cluster mean scores of the four-cluster solution. The third stage of cluster analysis, the validation stage, split the sample population, confirming the four-cluster solution was the best solution. Finally, the last stage of cluster analysis, the profiling stage, described how previously unused variables in the analysis could profile the clusters. An in-depth profile analysis of the clusters is presented in the next chapter.

CHAPTER EIGHT: CLUSTER PROFILES

8. Introduction

This chapter profiles the four-clusters: the *Active Indulgers*, the *Family Free Independents*, the *Family Focused Culturists*, and the *Traditionalists*. The chapter differentiates the clusters. Previously unused variables are analysed to highlight differences between clusters in terms of socio-demographics and general travel behaviours. The findings facilitate and re-affirm the labelling of each segment. The chapter completes the fourth and last stage in cluster analysis, the profiling stage. The chapter also completes the final research task: “Develop a comprehensive segmentation model, using factor analysis, and cluster analysis to assess the travel behaviours (trip type, holiday activities etc.) and psychographic behaviours (life focus, character types of tourists etc.) of the North American coach tourist visiting Ireland”. The findings offer a unique insight into the North American coach tourist visiting Ireland. Results fill a gap in Irish tourism literature. Appropriate targeting of the North American coach tourists to Ireland can thus take place.

To develop a comprehensive segmentation model, the four clusters are profiled in terms of the segmentation bases identified in chapter three: geographic, demographic, psychographic, and behavioural. Section 8.1 presents the geographic and demographic findings. Section 8.2 describes the behavioural findings. Section 8.3 presents the psychographic findings. Section 8.4 details cluster profile summaries, and section 8.4 concludes the chapter.

8.1 Geographic and Demographic Segmentation

Geographic segmentation⁸⁵ identifies where tourists come from. Geographic segmentation is derived *a priori*⁸⁶. As this work analyses a sample of the North American coach tourists visiting Ireland, geographic

⁸⁵ Refer to Chapter three, Section 3.3.1.2 for more on geographic segmentation.

⁸⁶ See Chapter three, Section 3.2 for more on the *a priori* approach.

segmentation is satisfied from the outset. Demographic segmentation⁸⁷ describes the socio-demographic characteristics of the entire sample. A *priori* and *posteriori*⁸⁸ approaches are used for demographic segmentation. Table 8.1 presents an overview of the socio-demographic profiles per segment.

	Cluster 1 N = 160 32.92%	Cluster 2 N = 170 34.97%	Cluster 3 N = 106 21.81%	Cluster 4 N = 50 10.29%	Total N = 486 100%
Characteristic	Active Indulgers	Family Free Independents	Family Focused Culturists	Traditionalists	Weighted Average
Mean age	59.7 years	50.6 years	60.4 years	62.8 years	58.4 years
Gender					
Male	40.5%	46.9%	50%	42.6%	45.3%
Female	57.1%	52.5%	50%	56.3%	53.9%
Occupational Statusⁱ					
Retired	45.2%	19.8%	52.2%	65.8%	46.1%
Manager/Executive	7.1%	11.7%	6.5%	5.8%	8.0%
Professional/ Technical	21.4%	38.9%	23.9%	16.3%	25.7%
Craftsman/Factory worker	2.4%	1.9%	0%	0.5%	1.0%
Government/Military	2.4%	4.9%	2.2%	1.6%	2.9%
Homemaker	4.8%	1.9%	6.5%	5.8%	4.5%
Secretary/Administrator	7.1%	3.7%	1.1%	.5%	2.3%
Teacher/Nurse	2.4%	5.6%	6.5%	2.1%	4.1%
Marital Statusⁱⁱ					
Married	71.4%	68.5%	73.9%	73.2%	71.6%
Single	11.9%	19.1%	7.6%	6.3%	11.3%
Separated	4.8%	8%	4.3%	6.3%	6.4%
Widowed	7.1%	3.1%	10.9%	13.7%	9.1%
Educational Statusⁱⁱⁱ					
Senior High	42.9%	24.7%	37%	39.5%	34.4%
Degree	31%	49.4%	41.3%	40.5%	42.8%
Masters	7.1%	10.5%	13%	10%	10.5%
Doctorate	7.1%	6.8%	2.2%	1.1%	3.7%
Household Income (\$)					
<\$49,000	26.2%	26.5%	21.7%	27.4%	25.9%
\$50,000-\$89,999	28.6%	16.7%	28.3%	23.2%	22.4%
\$90,000-\$129,999	16.7%	22.8%	12%	19.5%	18.9%
>\$130,000	9.5%	18.5%	12%	8.4%	12.6%
^{i, ii, iii} Variables not listed, reported a response rate of zero per cent. Note: Variable totals not summing to 100 per cent is due to non-response.					

⁸⁷ Refer to Chapter three, Section 3.3.1.1 for more on demographic segmentation.

⁸⁸ See chapter three section 3.2 for more on *the posteriori* approaches.

The table presents a descriptive analysis of the overall sample. Socio-demographic characteristics such as age, gender, occupation, marital status, education, and income are captured. The weighted average (mean) of the overall sample is also provided. The results of Table 8.1 are summarised as follows:

- Mean age for the entire sample is 58 years.
- Cluster members are predominantly female (weighted average of 54 per cent).
- The sampled tourists are predominantly retired (46 per cent of the sample)
- Just over a quarter (26 per cent) work in technical or professional roles.
- Cluster members are predominantly married (72 per cent)
- Eleven per cent of the sampled tourists are single, 9 per cent are widowed, and 6 per cent are separated.
- Cluster members are educated. Four per cent have doctorates. Eleven per cent educated to master's level, 43 per cent have degrees, and 34 per cent are educated to senior high level.
- Twenty six per cent of the sample earn below US\$49,000, whereas 12.6 per cent earn in excess of US\$130,000.

Descriptive statistics across the entire sample therefore indicate, on average, the tourists are middle-aged females, who are married, educated, but mostly retired now, and who are middle-income earners. The socio-demographics per cluster are outlined in the next section.

8.1.1 Socio-demographic characteristics per segment

This section provides a broad summary of the socio-demographic characteristics per segment. Differences and similarities between each group are revealed.

The Family Free Independents

With a sample size of 170, *the Family Free Independents* are the largest cluster. They account for 35 per cent of the sampled tourists. They are the youngest group with a mean age is 50.6 years. Over half (53 per cent) are female and they contain the largest number of singletons (19.1 per cent), and separated individuals (8 per cent). In terms of work, they are skilled workers with 38.9 per cent working in professional/technical roles. A further twelve per cent work as managers/executives, six per cent work as teachers/nurses and five per cent work in government/military jobs. One fifth are retired. Almost half have degrees (the highest of all the segments). Just over 10 per cent have a master's qualification and 6.8 per cent have a doctorate. The *Family Free Independents* also earn the most. Forty-one per cent earn in excess of US\$90,000 (22.8 per cent earn between US\$90,000-US\$129,999) and almost a fifth (18.5 per cent) earn in excess of US\$130,000.

In summation, *the Family Free Independents* are the largest cluster. They are younger, single, well educated, highly skilled, and are high-income earners.

The Active Indulgers

With a sample size of 160 tourists, *The Active Indulgers* are the second largest cluster representing 33 per cent of the overall sample. They are predominantly female (57 per cent) with a mean age of 59.7 years. *The Active Indulgers* consist of the largest number graduated to senior high level (42.9 per cent) however; they also have the highest number educated to doctorate level (7.1 per cent). Forty five per cent are retired, however, 21 per cent also work in professional/technical roles, 7 per cent work as managers/executives and 7 per cent, the largest amount, work as

secretarial/administration workers. Over half (55 per cent) earn less than US\$89,999⁸⁹, and over a quarter (26 per cent) earn more than US\$90,000.

In summation, *The Active Indulgents* are the second largest segment. *The Active Indulgents* are predominantly female, educated to senior high and doctorate level and are middle-income earners.

The Family Focused Culturists

The Family Focused Culturists with a sample size of 106, represent 22 per cent (the second smallest) of the entire sample. Mean age for this segment is 60.4 years and the gender balance is even. They consist of the largest number of homemakers and teachers/nurses (6.5 per cent) and nearly a quarter work as professional/technical workers. Over half are retired (52 per cent). *The Family Focused Culturists* contain the largest number of married respondents (73.9 per cent). They are well educated. Forty-one per cent have degrees, and 13 per cent have a masters degree. Income levels are similar to the *Active Indulgents* with almost a quarter (24 per cent) earning more than US\$90,000, and just over half earning less than US\$89,999.

In summation, *The Family Focused Culturists* are the second smallest segment. Cluster members are married; gender is evenly balanced, they consist of the largest number of homemakers, teachers/nurses, and masters graduates, and they are middle-income earners.

The Traditionalists

The fourth and final cluster, *The Traditionalists*, is the smallest cluster. With a sample of 50, cluster members represent 10 per cent of the overall sample. *The Traditionalists* are the oldest group with a mean age of 62.8 years. They consist of the largest number of retirees (65.8 per cent). However, 22.1 per cent also work as professional/technical workers or as managers/executives. Fifty-four per cent are female. The majority within

⁸⁹ Disposable income per annum

this cluster are married (73.2 per cent), although *The Traditionalists* also have the highest number of widows/widowers with 13.7 per cent. Six per cent are separated, and a further 6 per cent are single. *The Traditionalists* earn the least with 50 per cent earning less than US\$90,000 (27.4 per cent earn less than US\$49,000 and 23.2 per cent earn between US\$50,000-US\$89,999). Just eight per cent earn in excess US\$130,000.

In summation, *The Traditionalists* are the smallest segment. Cluster members are older, retired, females who earn the least, and are either married or widowed.

Table 8.2 presents a summary of the socio-demographic characteristics per cluster.

Table 8.2 Summary: Socio-Demographics Per Cluster				
Socio-demographic trait	Family Free Independents	Active Indulgers	Family Focused Culturists	Traditionalists
Cluster size	Largest	2 nd largest	2 nd smallest	Smallest
Gender	Female	Female	Balanced	Female
Education	Degree	Senior high and Doctorate level	Masters	Senior High
Occupation	Professional/ technical manager/ executive	secretarial/ administration	Homemaker, teacher/nurse	Retired Professional/ technical manager/ executive
Marital status and age	Young and single	Second youngest	Married	Older married or widowed.
Income	Earn the most	Mid earners	Mid earners	Earn the least

The four clusters therefore represent varying ages, gender, marital status, occupational status, educational status, and incomes. The socio-demographics of the sampled North American coach tourist visiting Ireland are not homogeneous.

Chi-square tests⁹⁰ were carried out to validate these findings. Appendix P presents the Pearson chi-square results for each socio-demographic trait. Findings confirm age group, occupation, marital status, and education are significant in establishing cluster membership at the 5 per cent level ($p < 0.05$). However, gender and income are below the critical value line for all clusters. Therefore, gender and income do not act as discriminating variables between the clusters at the 5 per cent level of significance.⁹¹ Consequently, these variables are removed from further analysis (Norusis 2007).

The chi-square test results highlight cluster memberships can change in accordance with the social characteristics of the individual, i.e., the travel needs of the North American coach tourist evolve as they age, as they change occupations and marital status, and as they achieve further education. The chi-square tests confirm socio-demographic characteristics play an important role in determining the travel and psychographic behaviour of the North American coach tourist.⁹² Nevertheless, there is a need for continuous segmentation research so appropriate targeting through different life stages can result. The next section explains how behavioural segmentation is used to segment the travel and psychographic behaviours of the sampled tourists.

8.2 Behavioural Segmentation

Behavioural segmentation⁹³ categorizes fourteen trip characteristics:

- Typical Vacation
- Travel Companion
- Travel Party Type
- Information
- Accommodation

⁹⁰ Chi-square tests determine whether there are any distinguishing characteristics between the segments.

⁹¹ See chapter 6 section 6.3.1 for similar findings in Phase 1 of this research.

⁹² Similar results were noted from the focus group analysis in phase two of this research (chapter 6), see also Appendix P.

⁹³ Refer to Chapter three, Section 3.3.1.4 for more on behavioural segmentation.

- Length of average holiday
- Vacation Duration
- Spend leisure time
- Most important activity
- Vacation Spending
- Usual destination
- Usual Season
- Trip type
- Other country visit

The *a priori* and *posteriori* segmentation approaches are used in behavioural segmentation analysis. A complete list of behavioural variables and significance levels (Pearson chi-square tests) can be seen in Appendix P.

Chi-square tests confirm ten of the fourteen behavioural variables⁹⁴ are significant⁹⁵ in defining cluster differences. Significant variables include:

- Typical Vacation
- Travel Companion
- Travel Party Type
- Information Source
- Accommodation
- Length of average vacation
- Length of current vacation
- Spend leisure time
- Most important activity
- Vacation Spend

⁹⁴ Usual destination, usual season of travel, trip type (i.e. whether the trip was for leisure or work purposes etc), and whether respondents visited another country while on this vacation, were statistically non-significant at the five per cent level of significance. These variables are no longer referred to in this work, as they do not distinguish between the clusters

⁹⁵ i.e. the absolute value of the statistic for a cluster is greater than the critical value (at a certain level of degrees of freedom).

These ten variables are important in distinguishing clusters. Descriptions of each of these significant variables, per cluster, are outlined below.

Typical Vacation

The first significant behavioural variable asked the tourists what is the typical vacation they go on. A cross-tabulation detailing preferred vacation type per cluster is presented in Table 8.3.

Typical Vacation Type	Family Free Independents	Active Indulger	Family Focused Culturists	Traditionalist	Weighted Average
Touring	18.5%	33.3%	20.7%	33.2%	22.0%
Sun	19.8%	26.2%	19.6%	18.4%	19.8%
VFR	11.1%	4.8%	20.8%	14.2%	15.4%
Educational	13.0%	2.4%	13.3%	11.1%	13.4%
Culture	7.3%	7.1%	16.5%	8.4%	10.9%
Countryside	6.2%	9.5%	6.0%	4.2%	5.8%
Adventure	5.3%	7.1%	5.0%	3.7%	4.5%
Activity	5.6%	4.8%	0.0%	4.7%	4.1%
City	4.2%	4.8%	7.5%	2.1%	4.1%
Total	100%	100%	100%	100%	100%

In summary, *the Active Indulgents* enjoy touring and sun holidays the most, and educational holidays the least. *The Family Free Independents* enjoy sun holidays the most, and touring holidays the least. *The Family Focused Culturists* enjoy VFR, touring and cultural holidays the most, whilst *The Traditionalists* enjoy touring and sun holidays the most, and city and activity holidays the least. The next behavioural variable addresses the travel companion of the sampled tourists in Ireland.

Travel Companion in Ireland

The travel companion/party of the sampled tourists while on this holiday in Ireland is presented in Table 8.4.

Table 8.4 Cross-Tabulation Identifying Travel Party In Ireland					
Travel Party	Family Free Independents	Active Indulger	Family Focused Culturists	Traditionalist	Weighted Average
Spouse	42.4%	47.6%	59.8%	57.4%	52.7%
Other family members	26.7%	28.6%	21.7%	17.9%	24.5%
Friends	21.7%	21.4%	14.1%	21.6%	18.5%
Alone	9.2%	2.4%	4.3%	3.2%	4.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Preferred Travel Party Type

Table 8.5 presents the sampled tourists' vacation party preferences.

Table 8.5 Cross-Tabulation Of Preferred Vacation Party Type					
Vacation Party type	Family Free Independents	Active Indulger	Family Focused Culturists	Traditionalist	Weighted average
Couples	34.6%	45.2%	46.7%	36.3%	38.1%
Groups of Tourists	29.0%	40.5%	22.8%	43.7%	32.1%
Single/lone Tourists	17.9%	7.1%	5.4%	3.2%	8.8%
Families	9.9%	4.8%	13.0%	5.8%	8.4%
With grandchildren	1.9%	2.4%	4.3%	4.2%	3.3%
Tourists w/disabilities	1.9%	.0%	1.1%	1.1%	1.2%
No preference	3.7%	.0%	2.2%	3.2%	2.9%
No response	4.9%	.0%	6.5%	5.8%	5.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Information Source Used

Information sources used by respondents for the purposes of this trip varied. Forty four per cent of respondents used the tour operator as their primary source of information. Travel agents were also used (23 per cent), along with word of mouth (10 per cent), and internet usage (13 per cent). Of the four clusters, *The Traditionalists* used tour operators (54.3 per cent) and travel agents (31.5 per cent) the most. *The Active Indulgents* and *The Family*

Free Independents used the internet the most (both 22 per cent), and travel agents the least (both 8 per cent). *The Active Indulgers* also used books the least (0.4 per cent) but trip advisor the most (21.7 per cent). Of the four clusters, *The Family Focused Culturists* used past holiday experience as their main information source (20.6 per cent), along with media campaigns (12 per cent). Finally, in comparison to any other cluster, *The Traditionalists* used word of mouth (12 per cent) the most.

Accommodation

Ninety-four per cent of the entire sample chose hotels as their primary accommodation. Ninety-eight per cent of the sample never stays in self-catering accommodation, and over sixty per cent never take cruise holidays. Of the four clusters, *The Active Indulgers* stay in hotels the most (33 per cent). Hotels are the least popular with *The Family Focused Culturists* (12 per cent). Of the four clusters *The Family Free Independents* are the most likely (20 per cent) to stay with friends, while *The Traditionalists* never stay with friends. Of the four clusters, *The Traditionalists* and *The Family Focused Culturists* are the most likely (15 per cent) to take cruises on every second holiday (or 50 per cent of the time). One fifth of *The Traditionalists* are also the only cluster to stay in their own vacation home fifty per cent of the time. In addition, *The Family Free Independents* are the only cluster to stay in bed and breakfasts, with twenty-seven per cent choosing this accommodation type at some point. Finally, of all the clusters, *The Family Free Independents* are the most likely (21 per cent) to stay in caravan/camping accommodation at some point on their holidays.

Length of Average Vacation

Before analysing North American tourists' decisions about how long to spend on their vacations, and their vacations in Ireland in particular, it is worth noting that those decisions are at least partly influenced by statutory vacation lengths. Statutory entitlements in North America are generally substantially lower than in Europe.⁹⁶ In Ireland, for example, (with lower than average statutory entitlements for Europe), an employee working five days a week, with 10 years' service, has a statutory entitlement of 20 days. Vacation entitlements in North America are generally lower. U.S. labour law does not mandate pay for time not worked and holiday policies vary widely. Consequently, vacation time is determined by contract and collective bargaining, and may vary from less than European statutory requirements to substantially more. In Canada, mandatory vacation entitlements vary between provinces. For example, mandatory entitlement for Ontario is two weeks. Vacation entitlements, however, are also as in the U.S. determined heavily by contract and collective bargaining, with some companies providing up to six weeks' vacation after 20 or 25 years of service. Overall, Canada and the United States have among the lowest statutory entitlements in the world. Actual vacation times can subsequently vary.

Table 8.6 presents the length of an average vacation per cluster for the sampled population.

Length of Average vacation	Family Free Independents	Active Indulger	Family Focused Culturists	Traditionalist	Weighted average
5-10 nights	62.3%	45.2%	37.0%	44.7%	49.2%
11-14 nights	22.2%	19.0%	38.0%	28.9%	27.6%
15-21 nights	6.8%	23.8%	16.3%	10.0%	11.3%
>21 nights	3.7%	2.4%	1.1%	6.8%	4.3%
No response	4.9%	9.5%	7.6%	9.5%	7.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

⁹⁶ <http://uk.mercer.com/press-releases/holiday-entitlements-around-the-world>

Table 8.7 details the current vacation length⁹⁷ per cluster.

Duration of this holiday	Family Free Independents	Active Indulger	Family Focused Culturists	Traditionalist	Weighted average
3-10 days	43.8%	19.0%	28.3%	22.6%	30.5%
11-20 days	42.0%	66.7%	59.8%	64.7%	56.4%
21-30 days	12.3%	4.8%	8.7%	11.1%	10.5%
37-42 days	1.2%	2.4%	3.3%	1.1%	1.6%
no response	0.6%	7.1%	0.0%	0.5%	1.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Although Table 8.6 shows the overall average holiday duration is short (five to ten days). Table 8.7 indicates that, on average, the current holiday duration is longer with over half staying between eleven to twenty days. The longer length is because the current holiday was to Europe, whereas the usual holidays are within North America.

Table 8.8 below presents, out of the time spent on the current vacation, how much time is spent in Ireland.

Duration of stay in Ireland	Active Indulger	Family Free Independents	Family Focused Culturists	Traditionalist	Weighted average
<10days	35.7%	54.3%	42.4%	33.2%	42.2%
11-14days	26.2%	16.7%	16.3%	23.7%	20.2%
15-21days	31.0%	29.0%	39.1%	40.0%	35.4%
21+days	.0%	0.0%	2.2%	2.1%	1.2%
No response	7.1%	0.0%	0.0%	1.1%	1.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Table 8.8 indicates that across all clusters short vacations in Ireland (fewer than 10 days) are the most popular (with a weighted average of 42.2 per cent).

⁹⁷ Length of stay on an average and current vacation (in Ireland) were open ended questions. As a result the tables display differing break-downs in length of stay. Responses dictated the distribution presented.

Usual Leisure Activity

Table 8.9 presents the breakdown of usual leisure activities per cluster.

Table 8.9 Cross-Tabulation Usual Leisure Activity Per Cluster					
Usual Leisure Activity	Active Indulger	Family Free Independents	Family Focused Culturists	Traditionalist	Weighted Average
Cable tv	28.6%	26.5%	22.8%	32.6%	28.4%
Internet	9.5%	16.4%	13.0%	10.0%	11.7%
Newspaper	14.3%	9.9%	15.2%	10.5%	11.5%
Books	9.5%	13.6%	3.3%	12.1%	10.7%
Network tv	11.9%	6.8%	21.7%	6.3%	9.9%
Exercising	9.9%	7.1%	7.6%	4.7%	7.2%
Magazines	7.1%	4.9%	2.2%	6.3%	5.1%
Radio	0.0%	4.3%	4.3%	6.3%	4.7%
Gardening	2.4%	1.9%	2.2%	1.1%	1.6%
Shopping	0.0%	1.9%	2.2%	0.5%	1.2%
Music	0.0%	1.2%	1.1%	1.1%	1.0%
Other	0.0%	3.7%	0.0%	4.7%	3.1%
Noresponse	6.7%	1.9%	4.3%	3.7%	3.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Most Important Leisure Activity

Table 8.10 presents the breakdown of the most important leisure activities for each cluster.

Table 8.10 Cross-Tabulation Most Important Activity Per Cluster					
Activity	Active Indulger	Family Free Independents	Family Focused Culturist	Traditionalist	Weighted Average
None given	40.0%	37.2%	46.7%	28.9%	33.5%
Relaxation	9.1%	7.4%	5.4%	13.6%	11.1%
Sightseeing	4.8%	8.0%	12.0%	12.6%	10.3%
Learning	7.1%	2.9%	9.2%	7.4%	7.2%
See new places	2.4%	8.0%	10.6%	5.3%	6.4%
Walking	4.9%	4.9%	1.1%	6.8%	4.5%
Meeting local people	7.1%	4.9%	3.3%	3.2%	4.1%
Guided tours	0.0%	2.5%	2.4%	4.2%	3.5%
Fine dining	7.8%	1.2%	3.3%	4.7%	5.3%
Golf	7.1%	2.5%	1.1%	3.2%	2.9%
Q.T with spouse	2.4%	0.6%	4.3%	2.6%	2.3%
Varies with location	0.0%	4.3%	0.0%	1.6%	2.1%

Activity	Active Indulger	Family Free Independents	Family Focused Culturist	Traditionalist	Weighted Average
Historical	2.4%	0.0%	4.3%	2.1%	1.9%
Nature	2.4%	3.7%	0.0%	0.0%	1.4%
Shopping	2.4%	0.0%	0.0%	2.1%	1.0%
Theatre	0.0%	0.0%	2.2%	1.1%	0.8%
Music	0.0%	1.2%	0.0%	1.1%	0.8%
Photo opps	0.0%	1.2%	0.0%	0.5%	0.6%
Q.T with kids	0.0%	1.2%	0.0%	0.5%	0.6%
Pool/hot tub	0.0%	0.6%	0.0%	0.5%	0.4%
Boating	0.0%	0.6%	1.1%	0.0%	0.4%
Spa/massage	0.0%	0.6%	0.0%	0.0%	0.2%
Equestrian	2.8%	0.6%	0.0%	0.0%	0.2%
Snow-sports	2.4%	0.0%	0.0%	0.0%	0.2%
Water-sports	0.0%	0.6%	0.0%	0.0%	0.2%
No response	52.3%	54.1%	48.1%	46.3%	50%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Vacation Spending

The final significant behavioural trait assesses the estimated amount of money North American coach tourists' spend (US\$) on vacations each year.

Table 8.11 presents this estimated spending per cluster.

Vacation Spend	Active Indulger	Family Free Independents	Family Focused Culturists	Traditionalist	Weighted Average
up to \$3000	33.3%	19.1%	15.2%	19.5%	19.8%
\$3001-\$6000	33.3%	44.4%	38.0%	33.7%	38.1%
\$6001-\$9000	14.3%	8.6%	14.1%	15.8%	13.0%
\$9001-12000	9.5%	12.3%	9.8%	12.1%	11.5%
> \$12000	2.4%	12.3%	10.9%	8.9%	9.9%
No response	7.1%	3.1%	12.0%	10.0%	7.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Each cluster displays differing travel behaviours. Section 8.2.1 summarises the distinctiveness of each of the four clusters.

8.2.1 Summary of Geographic and Behavioural segmentation

The Active Indulgents are either retired or working in professional/technical roles. *The Active Indulgents* enjoy touring and sun holidays and enjoy

educational holidays the least. They tend to travel with other family members and not on their own and stay in hotels the most. They like holidays dedicated to couples and they use the internet, in particular trip advisor to source their holiday information. In their leisure time, *The Active Indulgers* enjoy exercising, reading magazines and gardening. Important holiday activities include fine dining and meeting the local people. Their average holiday length is between two and three weeks, and while on holiday, *The Active Indulgers* spend the least.

Cluster two, *The Family Free Independents* are the youngest cluster and are mostly single. They work in professional/manager/executive roles and earn the most. They enjoy sun holidays, but enjoy touring holidays the least. They travel by themselves the most, and like vacations catering for singles and not couples. They stay either with friends or in bed and breakfasts while on holiday. Similar to *The Active Indulgers*, they use the internet to source holiday information. In addition, *The Family Free Independents* enjoy surfing the internet and reading books in their leisure time. The most important activities to them while on holiday are seeing new places and activities that vary with location. Their average holiday length is short with their current holiday in Ireland the shortest of all the clusters. However, while *The Family Free Independents* are on holiday, they spend the most.

Cluster three, *The Family Focused Culturists* are the second oldest cluster, with many working as homemakers or teachers or nurses. *The Family Focused Culturists* are either married or widowed. They enjoy cultural holidays and visiting family and friends while on holiday. *The Family Focused Culturists* travel with their spouse, and prefer holidays catering for couples and families, and they enjoy group holidays the least. *The Family Focused Culturists*, use past holiday experiences and media campaigns as their information sources. They enjoy cruises, and tend not to stay in hotels. In their leisure time, *The Family Focused Culturists* enjoy network television and reading newspapers. Their most important holiday activities are sightseeing and seeing new places. *The Family Focused Culturists* average holiday is two weeks.

The final cluster, *The Traditionalists* are the oldest and smallest cluster who are mainly retired. *The Traditionalists* enjoy city holidays the least and use tour operators, travel agents, and word of mouth to source their holiday information. They take cruises or stay in their own vacation home while on holiday and they never stay with friends. Like *The Active Indulgers*, they enjoy touring holidays, and prefer holidays catering for groups of tourists. *The Traditionalists* enjoy watching cable television and listening to the radio in their leisure time. Important activities for them while on holiday are sightseeing and walking. Finally, of all the clusters *The Traditionalists* stay the longest while on holiday, including this trip to Ireland.

Because not all behavioural variables were significant, psychographic segmentation is the final segmentation base used to differentiate the clusters.

8.3 Psychographic Segmentation

Psychographic⁹⁸ segmentation captures the character type and life focus of the cluster members. *A priori* and *posteriori* segmentation approaches are used in psychographic segmentation. Psychographic behaviours help understand three puzzles: 1) why do tourists travel; 2) how to predict the travel behaviour of tourists at a destination; and 3) how to establish the character traits of the tourists, in this study the North American coach tourist travelling to Ireland. Psychographic segmentation characterises behaviour in several ways. Travel motivations, travel constraints, character type, and life-focus (among others) are all examples of psychographic variables. Because these variables have been factor and cluster analysed, a list of all the remaining psychographic variables previously unused in this work is presented in Table 8.12.

⁹⁸ Refer to Chapter three, Section 3.3.1.3 for more on psychographic segmentation.

Table 8.12 Pearson Chi Square Significance Psychographic Characteristics				
Psychographic Variable	Pearson chi-square	Degree of freedom (df)	Significance Value p value	5% Significance (p < 0.05).
Travel traits	37.62	9	.000	√
Enjoy least on holiday	59.63	30	.001	√
Revisit	22.68	12	.031	√
Hotel expectation	15.82	9	.062	X
Hotel result	24.17	15	.062	X
Enjoy most on holiday	24.72	21	.260	X
Holiday expectations	12.19	9	.203	X
Food Ratings	17.05	15	.292	X
Perceived Health of tourist	25.38	24	.385	X

Table 8.12 shows three of the nine psychographic variables are significant. Identifying travel behaviour traits, what the tourist least enjoyed about the holiday, and whether the tourist will revisit Ireland are the significant psychographic variables (at the 5 per cent level ($p < 0.05$)) analysed here, to establish cluster membership. All other psychographic variables listed are below the critical value line for all clusters. These variables do not act as discriminating variables to distinguish between clusters. The variables (hotel expectation, hotel result, enjoy most on holiday, holiday expectations, food ratings, and perceived health of tourist) are consequently removed from further analysis.

Table 8.13 presents the findings of the first significant psychographic variable - the travel behaviour traits the respondent identified with most.

Table 8.13 Cross-tabulation Travel Behaviour Traits Per Cluster					
Travel Behaviour	Active Indulger	Family Free Independents	Family Focused Culturists	Traditionalist	Weighted Average
Impulsive	11.9	21.6	7.6	10.0	13.6
Planner	59.5	74.1	73.9	77.9	74.3
No response	28.6	4.3	18.5	12.1	12.1
Total	100	100	100	100	100
Package	45.2	48.8	59.8	65.3	57
Independent	26.2	43.2	20.7	23.7	29.8
No response	26.2	5.6	18.5	8.9	11.1
Mix of both	2.4	2.5	1.1	2.1	2.1
Total	100	100	100	100	100
Travel by car	42.9	54.3	27.2	37.4	41.6
Travel by coach	23.8	38.9	57.6	50.5	45.7
No response	28.6	2.5	13.0	8.9	9.3
Mix of both	4.8	4.3	2.2	3.2	3.5
Total	100	100	100	100	100
Follow Own instincts	21.4	35.8	23.9	21.1	26.5
Follow experts	38.1	54.9	59.8	66.3	58.8
No response	35.7	8.0	15.2	11.6	13.2
Mix of both	4.8	1.2	1.1	1.1	1.4
Total	100	100	100	100	100
Time by myself	19	40.1	25	23.7	29.0
Time with friends	35.7	53.1	57.6	61.6	55.8
No response	38.1	5.6	16.3	12.1	13.0
Mix of both	7.1	1.2	1.1	2.6	2.3
Total	100	100	100	100	100
Settle into routine	7.1	3.1	8.7	8.9	6.8
No response	28.6	3.7	16.3	7.9	9.9
Mix of both	0.0	0.6	1.1	1.6	1.0
Total	100	100	100	100	100
Seeks info	57.1	87.0	70.7	73.2	75.9
Waits for info	7.1	7.4	9.8	16.8	11.5
No response	35.7	5.6	18.5	10	12.3
Mix of both	0.0	0.0	1.1	0.0	0.2
Total	100	100	100	100	100

Table 8.13 contd Cross-tabulation Travel Behaviour Traits Per Cluster					
Travel Behaviour	Active Indulger	Family Free Independents	Family Focused Culturists	Traditionalist	Weighted Average
Non-escorted tours	14.3	45.1	16.3	21.5	27.8
No response	28.6	6.8	15.3	7.4	10.5
Mix of both	7.1	3.1	0.0	2.6	2.7
Total	100	100	100	100	100
<hr/>					
Travel with like minded tourists	28.6	44.4	44.6	54.7	47.1
Travel with diverse tourists	31	45.7	37	32.1	37.4
No response	38.1	8.6	18.5	10.5	13.8
Mix of both	2.4	1.2	0.0	2.6	1.6
Total	100	100	100	100	100

Table 8.13 shows numbers highlighted in red and blue. Red indicates high levels of agreement; blue indicates low levels of agreement. There was a high level of non-response for this question, but the following analysis is based on those who did respond.

Overall, the North American coach tourists sampled consider themselves planners (with a weighted average of 74.3 per cent) and not impulsive. The sampled tourists prefer package holidays (with a weighted average of 57 per cent) to independent holidays (weighted average of 29.8 per cent). They like to travel by coach (with a weighted average of 45.7 per cent) instead of by car. The sampled tourists choose to listen to experts while on holiday (with a weighted average of 58.8 per cent) instead of following their own instincts (weighted average of 26.5 per cent). Overall, the tourists like to do new things (with a weighted average of 55.8 per cent) while on holiday and not settle into routine. The respondents seek information (with a weighted average of 75.9 per cent) rather than wait for information. The sampled North American coach tourists enjoy fully escorted tours (with a weighted average of 59.1 per cent) over non-escorted tours, and the respondents like to travel with like-minded tourists (with a weighted average of 47.1 per cent) rather than diverse tourists (weighted average of 37.4 per cent).

The Family Free Independents are the most impulsive (21.6 per cent) of all the clusters. Of the four clusters, *The Family Free Independents* also like independent holidays the most (with 43.2 per cent). Given *The Family Free Independents* are impulsive and like vacations catering for singles, it is not surprising they choose to travel by car (54.3 per cent), follow their own instincts (35.8 per cent), and like to spend time on their own (40.1 per cent) while on holiday. In addition, of all the clusters, they want to do new things the most (92.6 per cent) and settle into routine the least (3.1 per cent). They seek information (87 per cent) the most, and choose to travel with diverse tourists (45.7 per cent).

Of the four clusters, cluster four, *The Traditionalists* are planners (77.9 per cent) and they like package holidays the most (65.3 per cent). Given *The Traditionalists* like group travel, it is not surprising they enjoy fully escorted tours the most (68.5 per cent). Above any other cluster, *The Traditionalists* also like to listen to experts (66.3 per cent)⁹⁹ and follow their own instincts the least (21.1 per cent). Even though they never stay with friends while on holiday, they like to spend time with them (61.6 per cent). Of the four clusters, *The Traditionalists* like to settle into a routine the most (with 8.9 per cent response), are the cluster most likely to wait for information (16.8 per cent). Finally, they like to travel with like-minded tourists the most (54.7 per cent).

Of all the clusters, *The Family Focused Culturists* are the least impulsive (7.6 per cent), and like independent holidays (20.7 per cent) the least. They choose to travel by coach the most (57.6 per cent) and by car the least (27.2 per cent). Of all the clusters, *The Active Indulgers* recorded the highest level of non-response across all the questions. Of those who did respond, they consider themselves planners, they like package holidays, and they like to travel by car. *The Active Indulgers* like to follow the experts, and enjoy time with friends. They also like to do new things, seek information, go on fully escorted tours, and travel with diverse tourists.

⁹⁹ This is confirmed by their use of tour operators and travel agents as sources of holiday information.

The psychographic variable, travel behaviour traits, therefore identifies differences across clusters. The results of the second significant psychographic variable, the least enjoyable part of the holiday, are presented in Table 8.14 below.

Table 8.14 Cross-tabulation Least Enjoyable Part of Holiday Per Cluster					
Least enjoyable	Active Indulger	Family Free Independents	Family Focused Culturists	Traditional	Weight Average
Bus schedule	19.0%	29.0%	25.0%	21.1%	24.3%
Weather	21.4%	10.5%	19.6%	22.1%	17.7%
Nothing	14.3%	8.6%	16.3%	16.3%	13.6%
Hotel location/ noisy/dirty/ poor service	0.0%	9.9%	3.3%	9.5%	7.6%
Hotel food/ room/dining hours	2.4%	6.8%	13.0%	4.2%	6.6%
Lack of time	2.4%	6.8%	2.2%	3.7%	4.3%
Specific tours on bus schedule	9.5%	3.1%	4.3%	3.7%	4.1%
Prices	0.0%	4.3%	1.1%	5.8%	3.9%
Loss of Irish culture	.0%	2.5%	.0%	1.1%	1.2%
Roads/infrastruc ture	2.4%	0.0%	1.1%	0.0%	0.4%
No response	28.6%	18.5%	14.1%	12.6%	16.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

The table presents the qualitative responses regarding the least enjoyable part of the respondent's most recent trip. Overall, with a weighted average of over twenty-four per cent, the respondents enjoyed the bus schedule the least, followed by the weather (with a weighted average of 17.7 per cent).

The Active Indulgents enjoyed the specific tours on the bus schedule the least (9.5 per cent) along with the poor conditions of the Irish roads (2.4 per cent). The lack of time (6.8 per cent) was also an issue. *The Family Free Independents* least enjoyed the actual bus schedule (29 per cent). In addition, the cluster members did not enjoy the hotel's location, cleanliness, and service (9.9 per cent) while also citing the loss of Irish culture in hotels and shops as not enjoyable (2.5 per cent). The third cluster, *The Family Focused Culturists* enjoyed the hotel food and dining hours the least (13 per

cent), whereas *The Traditionalists* enjoyed the weather (22.1 per cent) and the general prices of products in Ireland the least (5.8 per cent). These results are consistent with the findings in the visitor attitude surveys¹⁰⁰.

The results of the final significant psychographic variable, whether the respondents would revisit Ireland are presented in Table 8.15.

Table 8.15 Cross-Tabulation On Respondents Revisiting Ireland Per Cluster					
Revisit	Active Indulger	Family Free Independents	Family Focused Culturists	Traditionalist	Weighted Average
Very likely	14.3%	28.4%	21.7%	17.4%	21.6%
Somewhat likely	33.3%	33.3%	33.7%	26.3%	30.7%
Not too likely	28.6%	24.7%	26.1%	30.5%	27.6%
Not at all likely	23.8%	13.6%	15.2%	24.7%	19.1%
No response	0.0%	0.0%	3.3%	1.1%	1.0%
Total	100%	100%	100%	100%	100%

In the sample, the North American coach tourists' will somewhat likely revisit Ireland over the next five to ten years, (weighted average of 30.7 per cent). *The Family Free Independents* are the most likely of all the clusters to revisit Ireland, with the highest percentage choosing very likely to revisit (28.4 per cent) and the highest percentage choosing either very likely or somewhat like to revisit (61.7%). *The Traditionalists* are the least likely to revisit, with the highest percentage choosing not at all likely (24.7 per cent) and the highest percentage choosing either not too likely or not at all likely (55.2%).

This section enhanced our understanding of the North American coach market to Ireland. The names attributed to each segment reflect their dominant travel behaviour and psychographic behaviour. Detailed profiles of each cluster are described in the next section.

¹⁰⁰ Refer to Chapter 2 section 2.4.2 for more on visitor attitude surveys.

8.4 Cluster Profile Summary

This section highlights the most important tourism motivations of the North American coach tourist segments identified in this research. Each segment displays different travel behaviours and psychographics. Labelling occurred in accordance with the dominant theme associated with each group.

8.4.1. The Family Free Independents

The second cluster, are *The Family Free Independents*. This segment is marginally the largest of all the segments (n = 170), accounting for 35 per cent of the sample. *The Family Free Independents* are the youngest group with a mean age of 50.6 years. *The Family Free Independents* include the largest number of single and separated individuals. Cluster members work in professional/manager/executive roles and one fifth are retired. *The Family Free Independents* are well educated. They have the largest number educated to degree level.

The Family Free Independents enjoy sun holidays the most, and although they live a physically active life, they are indifferent to participating in physical activities while on holiday. Of all the clusters, *The Family Free Independents* consider tracing roots, shopping, theatre, and visiting relatives and friends as unimportant activities to do while on holiday. Cluster members take touring holidays the least and although they regard cultural enrichment as important to achieve over the next five to ten years, they do not consider cultural activities such as historical activities, visiting museums, and guided tours as important while on holiday. When asked to state their most important holiday activity, their high non-response rate confirms their lack of interest in any identified activities.

None of the motivational factors are important to the *Family Free Independents*. Relaxing and spending quality time with family and spouse are unimportant, and family, grandchildren, and looking after their health over the next five to ten years are particularly unimportant. Findings to the

open question yet again, reflect similar results. The following comments demonstrate their general opinion of motivational variables:

“I don’t care where I holiday, as long as it is away from home”

“Weather is not an issue for me, I see enough sun at home”

“I like getting a bargain but if I really want to visit a place, I will”

The Family Free Independents are, however, the most independent, impulsive and youthful of all the clusters. They follow their own instincts and they like to travel by themselves, and they like vacations catering for singles and not couples. They seek information about new things to do while on holiday. They enjoy being on their own, and choose to associate with younger people. They are the least traditional of all the clusters. While on holiday, they stay either with friends or in bed and breakfasts. Similar to *The Active Indulgers*, they use the internet to source holiday information. Their average holiday length is short with their current holiday in Ireland the shortest of all the clusters.

Although lack of time and commitments to work are not travel barriers for this cluster, seeing new places and doing new things is important to them. When *The Family Free Independents* are on holiday, they spend the most. Consequently, of all the clusters, variables such as good value for money and ease of getting to their destination are particularly unimportant to this clusters’ travel decision-making process. In their free time, *The Family Free Independents* enjoy surfing the internet and reading books.

The Family Free Independents are similar to independent segments in Letho et al. (2001) and Hsu and Lee (2002). Given *The Family Free Independents* do not like to part-take in activities while on holiday, comparisons can also be drawn with Pennington and Lane’s (2001) “uninvolved traveller” and with Dann’s (1977:187) comment that tourists seek to “transcend the feeling of isolation obtained in everyday life, where the tourist simply wishes to ‘get away from it all’”. The family free element of the segment is most similar to the ‘family escapist’ cluster defined by Zins (1999) and ‘the

escapist' cluster devised by Ward (2006). This finding, however, is at variance with some of the literatures. Ap and Mok (1996), Cha, et al. (1995), Park and Mok (1998), and Norman, et al. (2001) all found cultural interest, family, family and kinship, and new experiences are significant travel motivators at travel destinations. In addition, Jang, et al. (2002) and Kau and Lim (2003) found tourists are 'family/outdoor activities seekers', and 'family/relaxation seekers'. *The Family Free Independents* like Zins (1999) is therefore an interesting cluster because they are not motivated to visit family, or indeed travel with family or participate in activities with families.

8.4.2. The Active Indulgers

Cluster one is *The Active Indulgers*. They represent 33 per cent (n = 160) of the overall sample and have a mean age of 59.7 years. *The Active Indulgers* are either retired or working in professional/technical roles. They do however constitute the largest number of secretarial/administration workers. *The Active Indulgers* have the largest number educated to senior high level, but they also have the highest number educated to doctorate level.

The Active Indulgers enjoy touring and sun holidays the most and enjoy educational holidays the least. They tend to travel with other family members and not on their own. *The Active Indulgers* stay in hotels the most. Cluster members like holidays dedicated to couples and they use the internet, in particular trip advisor to source their holiday information. In their leisure time, *The Active Indulgers* enjoy exercising, reading magazines and gardening. Important holiday activities include relaxing and meeting the local people. Their average holiday length is between two and three weeks. *The Active Indulgers* spend the least while on holiday.

The Active Indulgers are the most active cluster. They participate in a wide range of activities at a destination, such as walking, golfing, equestrian, and cycling. Of all the clusters, *The Active Indulgers* consider fine dining, nature, and music and food as the most important indulgent activities to

participate in while on holiday. These findings are also reflected in the results of the open-ended questions. When asked to state their most important holiday activity, although response rate was low, responses did range from activities such as “*sightseeing*”, “*photography*”, “*great food and music*” to “*anything indulging*”, as well as more physical activities such as “*hill walking*”.

Although *The Active Indulgents* are physically active, relative to the other clusters they also like to relax and rest at the holiday destination. Cluster members like to escape and are motivated to travel by romantic and nostalgic factors. The open-ended responses also reflect similar findings. They are motivated to travel by their need for “*relaxation*” and their desire to “*escape everyday routine*”. Fear variables do not prevent *the Active Indulgents* to travel. They consider themselves planners, they seek information and they like package holidays. However, of all the clusters, the *Active Indulgents* consider themselves luxurious wanderers. Cluster members want to travel more and enjoy more of life’s luxuries. In terms of character type, *the Active Indulgents* are the trendiest and most liberal of all the clusters. They are risk takers, they like to do new things, always keeping up with new trends, and financial enrichment is important to them.

The Active Indulger cluster is consistent with “The Indulger” segment in Horneman et al. (2002) and “The Healthy Indulgents” segment in Moschis’ (1993; 1997; 2000; 2003; 2004). In these works, psychographics and demographic characteristics were used to segment a market based on preferred holiday type, motivations for travel, and needs and lifestyles. Wanting to indulge is the common theme across all of these segments. *The Active Indulgents* is also similar to the ‘allocentric traveller’ segment in Plog (1991). Similar to *The Active Indulgents*, Plog (1991) indicated the ‘allocentric travellers’ are active, independent, motivated by novelty, discovery, meeting new people, and focus on varied activities. Parallels can also be drawn with Mayo and Jarvis’ (1981) status and prestige motivation (where there is a desire for self-recognition and personal development), Ryan and Glendon’s (1998) relaxation motivation (whereby one travels to

escape and search), Fodness (1994) 'ego enhancement' segment and Devonish's (2008) "relaxation and pleasure-seeking" motivation trait. The indulging aspect of tourists is clearly not new within tourism research.

The active element of the *Active Indulger* segment confirms Dolnicar's (2007:129) that every tourist "feels attracted by different tourist destinations, likes to engage in different activities while on vacation". Similarities exist with the sport seekers segment in Cha, et al. (1995) and Devonish (2008), as these tourists place a high importance on sports and physical recreation activities. In addition, similarities may be drawn with the "actives" segment in Shoemaker (2000), the "physicals" segment in Cleaver (1999), and the "physical challenge seekers" in Lang and O'Leary (1997). Further similarities can be drawn with Ingham (1986), Iso-Ahola(1982), Uysal and Jurowski (1994), and Mannell and Iso-Ahola (1987), which found that people travel because they are pushed by intrinsic motivators, such as the desire for escape, rest, and relaxation, prestige, social interaction, recreational opportunities and fitness, as well as Krippendorf's (1987) motivation of broadening the mind. Finally, Fodness's (1994) motivation for ego-enhancement (or social prestige) and Moscardo et al.'s (1996) travel motivations, including escape and desire to part-take in physical activities, are also similar to the *Active Indulger* segment highlighted in this work.

8.4.3. The Family Focused Culturists

Cluster three, the *Family Focused Culturists*, constitute 22 per cent (n = 106) of the sample population. With a mean age of 60.4 years, the *Family Focused Culturists* are the second oldest cluster. Just over half of *The Family Focused Culturists* are retired but the cluster also contains the largest number of homemakers, teachers/nurses and the second highest number of professional/technical workers. *The Family Focused Culturists* are predominantly married or widowed. They are also well educated with the highest number educated to master's level. Lack of money is a barrier preventing them from travelling. Their average holiday is two weeks but

time constraints such as commitments to work (for those still working) and lack of time in general affects their travel decisions.

Relative to the other clusters, they rate family and grandchildren, and looking after their health over the next five to ten years as important variables. More than any other cluster, family commitments, and health problems restrict their travelling. They rate cultural activities, such as guided tours, historical activities, and visiting museums, as important things to do while on holiday. Relative to the other clusters, they place highest importance on visiting family and friends (VFR) while on holiday. They enjoy group holidays the least, but they regard guided tours as the most important holiday activities, as well as spending quality time with their spouse. They are most likely to travel with their spouse, and prefer holidays catering for couples and families. In addition, they consider strengthening their spiritual faith and sharing their beliefs with others as important but do not think their actions and decisions are impulsive.

Of all the clusters, *The Family Focused Culturists* have the strongest desire to travel for educational purposes. They rate as important experiencing new cultures, personal growth, adventure, and learning new things about a destination. The dominant theme emerging is that the Family Focused Culturists are culturally active and are motivated to travel by their desire for knowledge. The responses to the open questions regarding the most important holiday activities and motivations of respondents confirm these findings. Some of the responses provided include, “*spend time with family*”, “*learning about the place*”, “*visiting buildings of historic importance*” and “*just getting the chance to go sightseeing*”. *The Family Focused Culturists* therefore choose destinations suitable for families and with a variety of cultural and historical attractions. Scenery, high quality accommodation, and nice weather are also important physical attributes that attract *The Family Focused Culturists* to a destination. *The Family Focused Culturists* consider variables such as a safe and secure location, ease of access, interesting history, and good value for money as important. Recommendations from friends are a particularly important location

attribute as this cluster uses past holiday experiences as a key information source. *The Family Focused Culturists* tend to stay with friends and relatives rather than hotels, but they enjoy cruises. When not on holiday, they enjoy network television and reading newspapers.

The findings of this segment are consistent with a substantial literature highlighting the importance of family. Pitts and Woodside (1986) argued that travel motivations (such as spending time with family and experiencing new cultures) are influenced by peoples' values. Norman, et al. (2001), Ap and Mok (1996), Cha, et al. (1995), and Park and Mok (1998) highlighted the importance of family and cultural education as significant travel motivators and behaviours at travel destinations. Jang et al. (2002), Cha et al. (1995), Shoemaker (1989), and Kau and Lim (2003) identified and labelled tourist segments as 'family/outdoor activities seekers', 'family travellers' and 'family/relaxation' seekers. Moscardo, et al. (1996) highlighted family relationships as a travel motivator. Crompton (1979) highlighted a need to enhance kinship relationships as a motivator. Similarly, Oates, et al. (1996) has a 'family oriented' segment, and Lang and O'Leary (1997) has a 'family vacationer' segment.

The cultural aspect of the *Family Focused Culturist* devised in this research are similar to Crask's (1981) 'sightseers' segment, Yousefi and Marzuki's (2012) 'cultural and historical attractions', Goodrich's (1978) 'historical and cultural interest' segment, Mayo and Jarvis's (1981) 'cultural motives' segment, Cleaver et al.'s (1999) 'learners' segment, You and O'Leary's (2000) 'culture hounds', Lang and O'Leary's (2007) 'culture and entertainment seeker', Ryan and Glendon's (1998) 'intellectual motivator', and Ward's (2006) 'culture explorer'. Culture and anything related to learning about new cultures is consequently a popular segment type within tourism segmentation literature.

8.4.4. The Traditionalists

The final cluster, *The Traditionalist*, is the oldest cluster with a mean age of 62.8 years. The *Traditionalist* is the smallest segment, representing 10 per cent (n =50) of the overall sample. It includes the largest number of retirees. The majority within this cluster are married although *The Traditionalists* also have the highest number of widows/widowers. *The Traditionalists* stay the longest while on holiday, including this trip to Ireland.

The Traditionalists enjoy city holidays the least and use tour operators, travel agents, and word of mouth to source their holiday information. They take cruises or stay in their own vacation home while on holiday and they never stay with friends. *The Traditionalists* do not live physically active lives, and they rate physical activities as unimportant. The open-ended question assessing activities confirms this with comments such as “no interest” “none” or “not healthy enough to do any physical activities”. Although *The Traditionalists* have no interest in intense physical activities, they do consider sightseeing and walking as important activities to do while on holiday. Relative to the other clusters, escape, and cultural enrichment are not important to the *Traditionalists*. The weather, quality of scenery and the availability of high quality accommodation are also not important factors attracting them to a destination. Over the next five to ten years, *The Traditionalists* do not want to enjoy more of life’s luxuries nor do they wish to share their beliefs with others, or develop new skills in technology/gadgets/internet. In addition, *The Traditionalists* do not keep up with new trends. Financial enrichment is not important to them and of all the clusters, modern technology challenges them.

As the label suggests, however, traditional values are important to them. Cluster members look forward to retiring. They are not risk takers, they do not consider themselves liberal, and they do not choose to associate with younger people. Consequently, of the four clusters, *The Traditionalists* like to settle into a routine the most. Over the next five to ten years, they have

no desire to work in their dream occupation or travel more. While on holiday, *The Traditionalists* more than any other cluster like to listen to experts, like to travel with like-minded tourists, and prefer to wait for information from the tour rather than seek it out themselves. *The Traditionalists* do not consider adventure, or learning new things, as important travel motivators. They do not consider themselves as independent. *The Traditionalists* are planners, and of all the clusters, they especially like package holidays. Consequently, they enjoy fully escorted tours the most, as well as holidays catering for groups of tourists. In their leisure time, *The Traditionalists* enjoy watching cable television and listening to the radio.

The ‘psycho-centric traveller’ identified by Plog (1972) shows similar traits to *The Traditionalist* segment identified in this research, because the ‘psycho-centric traveller’ visits familiar and well-established locations, is less active, and prefers to travel in groups and participate in common activities. You and O’Leary’s (2000) ‘passive visitor’ segment also exhibit similar traits to *the Traditionalist* because they like travel arrangements handled for them. Similarly, Boksberger and Laesser (2009) ‘grizzled explorer’ segment also likes organised travel arrangements. *The Traditionalist* segment can also draw similarities with Park and Yoon’s (2009) ‘passive tourist’ segment because this segment exhibited low motivations to engage in holiday activities. Similarities can also be drawn with Kastenholz, Davis and Paul’s (1999) ‘traditional ruralists’ segment, Goodrich’s (1978) ‘passive entertainment’ segment, and Shoemaker’s (1989) ‘older set’ segment.

Sections 8.4.1 to 8.4.4 summarised the socio-demographic, general travel behaviours, and psychographic behaviours of each cluster. The sections highlight the four clusters are diverse, and confirm the North American coach tourist market to Ireland is not a homogeneous group. Summaries of each cluster are presented in Figures 8.1 to 8.4 (at the end of the chapter).

8.5. Conclusion

The chapter differentiates four different potential markets within the North American coach tourism sector, *The Active Indulgers*, *The Family Free Independents*, *The Family Focused Culturists*, and *The Traditionalists*. The chapter completes the fourth and last stage in cluster analysis, the profiling stage. Using previously unused variables, the cluster profiles disseminate detailed knowledge concerning the North American coach tourist's socio-demographic profiles, travel behaviours, and psychographic behaviours. The chapter completes the final research aim: "Develop a comprehensive segmentation model, using factor analysis, and cluster analysis to assess the travel behaviours (trip type, holiday activities etc.) and psychographic behaviours (life focus, character types of tourists etc.) of the North American coach tourist visiting Ireland. The diverse cluster profiles can enhance Irish tourism's competitiveness, develop Irish tourism policy, and derive products to target this market. An enhanced competitive advantage for the Irish tourist product will result. The conclusions and implications arising from the cluster profiles are presented in the next chapter.

Figure 8.1 Cluster Summary: Active Indulger





















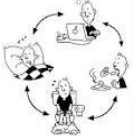
Socio-demographics	Trip Characteristics	Activities	Push Motivations	Pull motivations	Constraints	Character type	Life Focus
	 <p>Vacations for</p>  <p>Travel with</p>  <p>Information sources</p> 	   <p>active living</p> 	<p>BEST & RELAXATION</p>   	  	<p>NO FEAR</p>  	  	 <p>INDEPENDENT</p>

Figure 8.2 Cluster Summary: Family Free Independents













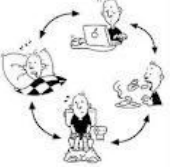



Socio-demographics	Trip Characteristics	Push Motivations	Pull motivations	Constraints	Character type	Life Focus
  	  <p>Information sources</p> 	<p>MISSING: MOTIVATION REWARD IF FOUND</p> <p>Not</p>  <p>not</p>  <p>Not</p> 	<p>MISSING: MOTIVATION REWARD IF FOUND</p> <p>Not</p> 		<p>Not</p>  <p>Not</p>  <p>INDEPENDENT</p> 	<p>Luxury & Lifestyle Professionals</p> <p>Not</p>  

Figure 8.3 Cluster Summary: Family Focused Culturists





















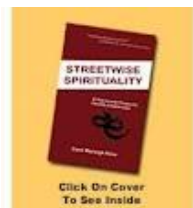













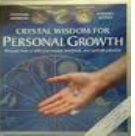







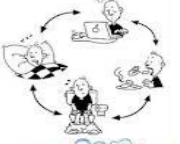




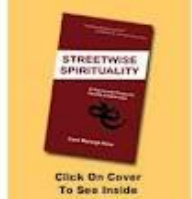


Socio-demographics	Trip Characteristics	Activities	Pull motivations	Constraints	Character type	Life Focus
	<p>Travel with</p>  <p>Prefer holidays</p>  <p>Also prefer holidays</p>   <p>Information sources</p> 	   	  	    		    

Figure 8.4 Cluster Summary: The Traditionalists

Socio-demographics	Trip Characteristics	Activities	Push Motivations	Pull motivations	Constraints	Character type	Life Focus
  	   <p>Information sources</p>  		 <p>Not</p>  <p>Not</p>  <p>Not</p>  <p>Not</p> 	<p>Safe location</p> <p>Easy to get there</p>	   	 <p>Happy Retirement</p> <p>Not</p>  <p>Not</p>  <p>Not</p>  <p>Not independent</p>	<p>Not</p>  <p>Not</p>  <p>Click On Cover To See Inside</p> <p>Not</p>  <p>Not</p> 

CHAPTER NINE: CONCLUSIONS and RECOMMENDATIONS

9. Introduction

This chapter presents the overall key findings, this chapter discusses policy implications and the dissertation's contribution of the literature on segmentation, and addresses the central question that motivated this research: whether North American coach tourists are typical of tourists to Ireland, or whether they are different and need to be marketed differently. A summary explaining how this research identified four unique segments is presented. The results are set in context of theory, outlining the contribution this work makes to tourism policy and literature. Limitations arising from this research are noted and opportunities for future research are presented.

This thesis analysed the North American coach tourist visiting Ireland. Specifically, the travel behaviours and the psychographic behaviours of these tourists were analysed. Segmentation analysis was carried out to identify specific sub-groups within this market. Techniques such as factor analysis and cluster analysis were used to identify common dimensions within this market. These techniques, although popular within tourism literature, had never previously been used to analyse an inbound tourist market to Ireland. This research therefore filled a gap in Irish segmentation research. For the first time, using the statistical techniques of factor analysis and cluster analysis, unique segments providing an in-depth understanding of the type of North American coach tourist visiting Ireland were derived. Four distinct sub-groups were determined and labelled: the Active Indulgers, the Family Free Independents, the Family Focused Culturists, and the Traditionalists.

The research carried out three tasks:

- 1) Identifying the usefulness of segmentation analysis;
- 2) Devising a unique questionnaire to analyse the North American coach tourist market in Ireland, and successfully distributing it to a large sample of tourists;
- 3) Applying the techniques of factor analysis and cluster analysis to identify underlying dimensions (factors) in the variables and highlighted specific sub-groups within the North American coach tourist market.

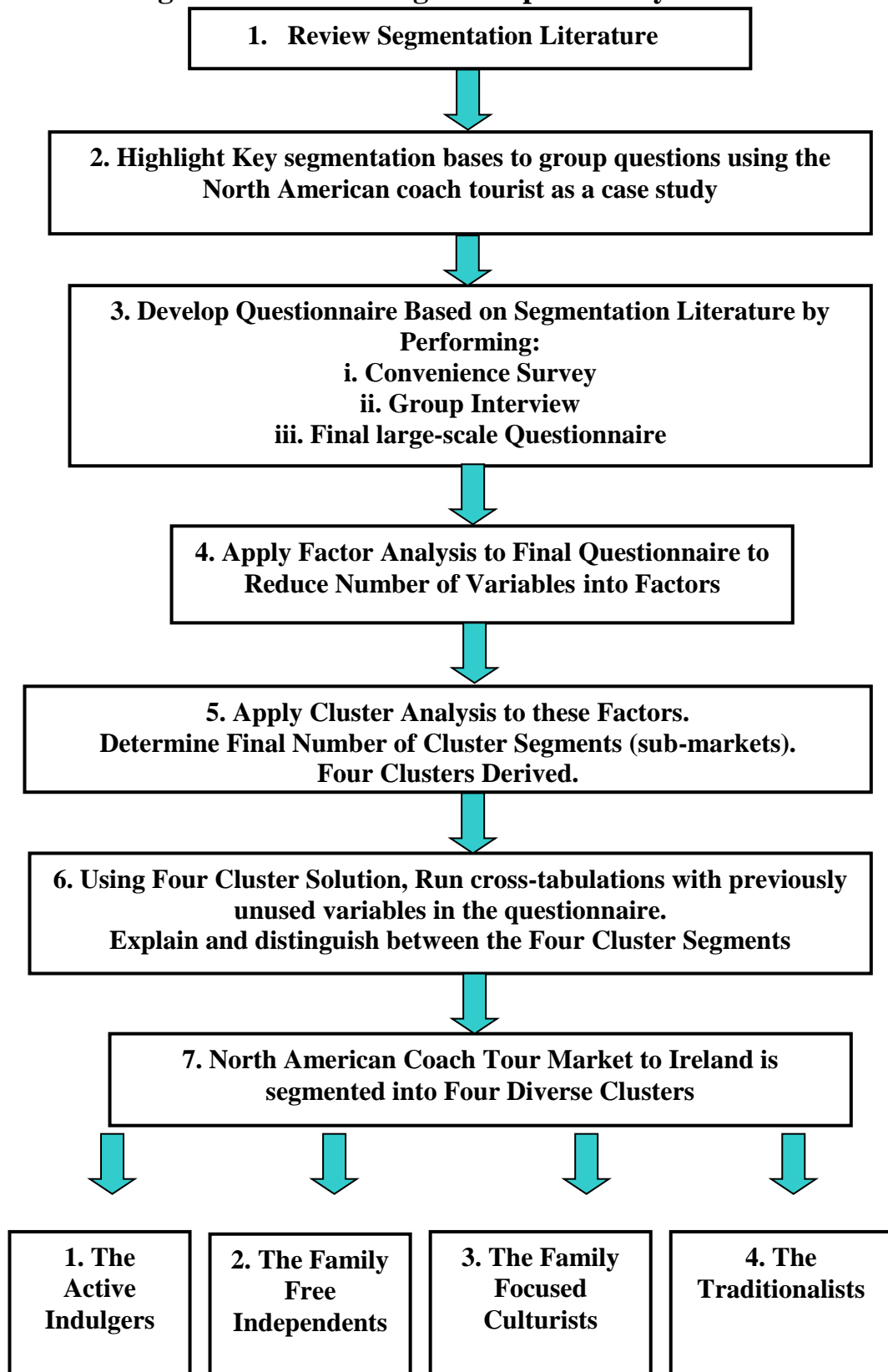
These three tasks led to a comprehensive segmentation model that used factor analysis and cluster analysis to assess the travel behaviours (holiday type, holiday activities etc.) and psychographic behaviours (life focus, character types of tourists etc.) of the North American coach tourist visiting Ireland.

9.1 Research Analysis

Figure 9.1 (over leaf) provides an overview of the study. As can be seen, this research consisted of seven steps using three research stages. The culmination of these steps identified the four distinct sub-groups within the North American coach tour market to Ireland.

This research confirms the usefulness of segmentation when the techniques of factor analysis and cluster analysis statistically confirmed there are four diverse segments within the North American coach tourist market to Ireland. Section 3.3 highlighted the popularity of segmentation within tourism literature. Application of segmentation analysis using factor analysis and cluster analysis within Irish tourism research, however, is scant. The four unique segments identified in this research, therefore, fill a gap within Irish tourism literature, and for the first time, an understanding of inbound coach tourists' characteristics using multivariate analysis is achieved.

Figure 9.1 Methodological Steps of Study



To begin the process of segmenting the North American coach tour market to Ireland, a unique questionnaire was devised (see Appendix C). The questionnaire was unique for two reasons. First, the questionnaire used in this research used all four segmentation bases, a first for Irish tourism segmentation research. Four of the most popular segmentation bases (Kotler 1980) were used to segment the North American coach tour market: demographic segmentation (e.g., age, gender), geographic segmentation (e.g., location), psychographic segmentation (e.g., attitudes, character type), and behavioural segmentation (e.g., activities, length of stay). The multiple segmentation approach, which combined all four segmentation bases, was used because it successfully guides managerial decisions and facilitates effective promotional strategies and campaigns. The multidimensional approach therefore provided a much richer description of the segments, assessing a wide range of travel behaviours, attitudes, and demographics per tourist region.

Second, questions came from three sources, two of which focused entirely on the North American coach tour market to Ireland, a first for Irish tourism segmentation research. Questions were derived from the findings of the extant literature. Those questions were amended and expanded on based on both individual interviews with North American tourists and group interviews. The resulting questionnaire was then used on a larger scale (see chapter 6), to which factor analysis and cluster analysis was applied. The questionnaire, although comparable to prior segmentation research, produced a richer and more precise description of an inbound tourist market to Ireland.

9.2 Central Findings

There were four important findings from this research. First is a summary description of North American coach tourists to Ireland. Table 9.1 presents this summary description.

Table 9.1. Summary of the weighted mean responses for the overall sample	
Variable	Weighted mean average
Age	58 years
Gender	Predominantly female
Occupation	1. Retired 2. Technical and/or professional roles
Marital Status	Married
Education	Well educated
Vacation Choice	1. Touring holidays are the most popular vacation choice 2. Sun holidays 3. visiting relatives and friends Activity and city holidays are the least popular holiday.
Travel Party	Predominantly with spouse
Preferred Vacation	1. Travelling in couples or 2. In groups
Information source	Varied. 1. Tour operator 2. Travel agents 3. Word of mouth 4. Internet
Accommodation	Hotels
Vacation length	- Short vacations (5 to 10 nights) are most popular in general. - This current holiday duration is longer (11-21 days) - Current vacation in Ireland is short (less than 10 days)
Leisure activity	1. Watching cable television 2. Surfing the internet and 3. Reading newspapers
Important activity on holiday	1. Relaxing 2. Sightseeing 3. Learning about the country
Spending	Largest group: between US\$3001 and US\$6000 Smallest group: spending more than US\$12,000
Enjoy the least	1. Bus schedule 2. Weather
Travel behaviour	Planners Prefer package holidays Travel by coach Listen to experts while on holiday Like to do new things Seek information Enjoy fully escorted tours Like to travel with like-minded tourists
Revisit?	Somewhat likely over the next 5-10 years.

Failte Ireland's (2012) profile of coach tourists in Ireland¹⁰¹ show very similar findings (i.e. similar length of stay, similar travel party, similar

¹⁰¹ See Chapter 3, Table 3.7.

activities, similar accommodation etc). The simple summary statistics do not, however, tell us much about the diversity of coach tourists. The second important finding in this research was to identify those variables that allowed tourists to be segmented. Table 9.2 lists the significant and insignificant variables, as determined by the Pearson chi-squared tests

Table 9.2 Variables listed by their significance for segmenting tourists	
Significant Variables	Insignificant Variables
Socio-demographic	Socio Demographic
Age group	Gender
Occupation	Income level
Marital Status	Behavioural
Education level	Usual Season
Behavioural	Trip type
Typical Vacation	Psychographic
Usual destination	Hotel expectation
Travel Companion	Hotel result
Travel Party Type	Enjoy most on hol
Information	Hol expectations
Accommodation	Food Ratings
Length of avg hol	Perceived Health of tourist
Other country visit	
Spend leisure time	
Most n.b activity	
Vacation Spend	
Psychographic	
Travel traits	
Enjoy least on holidays	
Revisit	

The third important finding comes from using factor analysis to highlight whether there were unique sub-dimensions in the variables used in the questionnaire. Table 9.3 presents a summary of these newly labelled extracted factors, per variable theme. The labels represent the underlying dimension of each respective factor.

Table 9.3 Summary of Factors Extracted Per Variable Theme	
Variable Theme	Factors Extracted
<i>Push Motivations</i>	Educational Rest/Relaxation
<i>Pull Motivations</i>	Location Attributes Physical Attributes
<i>Activities</i>	Physical Activities Indulging and Entertainment activities Cultural Activities Family Orientated Activities
<i>Travel Constraints</i>	Fear Constraints Time Constraints
<i>Focus Over Next 5-10 years</i>	Educating Spiritualist Family Focused Luxurious Wanderer
<i>Character Type</i>	Trendy Liberalist Independent Youth Traditionalist

Table 9.3 indicates factor analysis successfully and significantly reduced sixty-seven original variables to sixteen common categories, known as factors or dimensions. No previous work applied the technique of factor analysis to the North American coach tourist in Ireland. Factor analysis therefore answered one half of research task three, “apply the techniques of factor analysis..... to identify underlying dimensions (factors) in the variables within the North American coach tourist market”.

The fourth important finding was the identification of sub-groups within the North American coach tour market in Ireland using cluster analysis. Factor analysis having uncovered the main travel behaviours and psychographic variables of these tourists, cluster analysis used these variables to classify respondents into segments. Specifically, the North American coach tourists in Ireland was segmented into four distinct clusters: *The Active Indulgers*, *The Family Free Independents*, *The Family Focused Culturists*, and *The*

Traditionalists. Research objective three was now complete, “Apply the techniques of factor analysis and cluster analysis to identify underlying dimensions (factors) in the variables and highlight specific sub-groups within the North American coach tourist market”.

Details of each sub-group, outlined in sections 9.2.1 to 9.2.4, answer the overall aim of this thesis: to develop a comprehensive segmentation model, using factor analysis and cluster analysis to assess the travel behaviours (holiday type, holiday activities etc.) and psychographic behaviours (life focus, character types of tourists etc.) of the North American coach tourist visiting Ireland.

9.2.1 The Family Free Independents - Key findings

The second and largest cluster was labelled *The Family Free Independents*. A summary of the main findings per variable theme are presented in Table 9.4.

Table 9.4 Family Free Independent Summary					
Socio-demo-graphics	Trip Characteristic	Activities	Motivations+ Constraints	Character type	Life Focus
-Single -Prof essional	-lone -internet -short holidays -spend most \$ -sun	-not touring -not tracing roots -not shopping -not VFR -not cultural activities	-not to relax, -not quality time with family and spouse -See new places	independent -youthful -follow own instincts -least traditional	-not family, -not grandkids -not looking after their health -not culture

9.2.2 The Active Indulger – Key Findings

The first cluster was labelled *The Active Indulger*. A summary of the main findings per variable theme are presented in Table 9.5.

Table 9.5 Active Indulger Summary					
Socio-demographics	Trip Characteristic	Activities	Motivations+ Constraints	Character type	Life Focus
-Young -spend least	-Touring or sun -travel with family -use hotels -internet -2/3 week holidays	-very active -indulging -fine dining -not education	-escape -travel for romance and nostalgia -no fear in travelling	-Liberal -Risk takers, -keep up with trends -financial enrichment	-travel more -enjoy more luxuries

9.2.3 The Family Focused Culturists – Key Findings

The third cluster was labelled the *Family Focused Culturists*. A summary of the main findings per variable theme are presented in Table 9.6.

Table 9.6 Family Focused Culturists Summary					
Socio-demographics	Trip Characteristic	Activities	Motivations+ Constraints	Character type	Life Focus
-2 nd oldest -Married or widowed	-with spouse -vacations for couples and families -cruises -past holiday experience or media to source info -2 week holidays	-cultural -VFR -quality time with spouse -sightseeing -watch network tv and reading newspapers	-family focused -most cultural and VFR holidays -Scenery -accommo -safe and secure location -ease of getting there -Recommend. from friends -family commitments and health problems prohibit travel	Cultural enrichment	-Family grandkids -health -spiritual faith -share beliefs

9.2.4 The Traditionalists – Key Findings

The final cluster was labelled *the Traditionalists*. A summary of the main findings per variable theme is presented in Table 9.7.

Socio-demographics	Trip Characteristic	Activities	Motivations+ Constraints	Character type	Life Focus
-Oldest -Retired -small segment	-do not like city holidays -touring holidays -like group holidays -own vacation home -tour operator or travel agent to source info -stay longest	-sightseeing and walking important on holiday -physical activities unimportant -watching cable tv and listening to radio at home	-escape, and cultural enrichment not important -weather, quality of scenery and accommodation not important -adventure, learning new things not important	-traditional values important -do not live physically active lives -do not associate with younger people -modern technology challenges them -look forward to retiring. -not risk taker -not liberal -Financial enrichment not important	-do not want to: enjoy more of life's luxuries -share beliefs -develop new skills -keep up with trends -work in dream occupation -travel more -not independent

Discussion

Sections 9.2.1 to 9.2.4 uncover the heterogeneity within the North American coach tourist market in Ireland. Findings from Table 9.4 to Table 9.7 suggest the market should not be targeted as a single segment. Rather, Irish tourism marketers need to understand that North American coach tourists to Ireland have multidimensional motivations, travel, and psychographic behaviours that need to be understood for successful product innovation. The National Competitiveness Council (NCC 2012) suggested that focus needs to be placed on customer orientation. The diverse segments mean Irish tourism marketers need to cater to a variety of customer orientations, not a single, homogeneous customer. The information about these segments

improves the ability of tourism marketers to design and implement policies likely to increase future North American visits.

9.3 Product Development

The identification of four unique segments should help policymakers to appropriately target and capture more North American coach tourists. Suggestions how to target each distinctive segment are presented below.

9.3.1. The Family Free Independents

Although they stay the shortest time, there are two reasons the *Family Free Independents* are an important segment for Irish tourism policy makers to target. Of all the segments, they are the most likely to revisit (28.4 per cent choosing very likely to revisit and 61.7 per cent choosing either very likely or somewhat like to revisit). They also spend the most money (12.3 per cent will spend at least \$12,000, and 24.6 per cent will spend at least \$9,000, the highest percentage in each category.) Irish tourism bodies could appropriately target the *Family Free Independents* if they supplied for example, “family free tours” because the segment is not interested in travelling with family, visiting family, or participating in any family activity – educational, cultural, physical or otherwise. Family free hotel stays or family free hotel floors could also attract this tourist and tours for non-family orientated tourists could be developed. For example, coach tours for single, independent, ‘follow their own instincts’ kind of tourists could be developed. Because the *Family Free Independents* are very impulsive and the least traditional of all the segments, the tours would require a lot of flexibility. Consequently, an alternative tour that would suit this segment would be “flexible tours”. As these tourists stay the shortest, but spend the most, flexibility in seeing new places and doing new things are key to maximising the benefits from this segment. Because the *Family Free Independents* prefer independent holidays to package holidays, and they also normally prefer to travel by car than by coach, perhaps an optional “two to three day car hire tour” could allow the independent tourists i.e. the

Family Free Independents, to travel and do as they wish. A pre specified pick-up point would allow the tourists to re-join the coach tour.

Like the *Active Indulgers*, the *Family Free Independents* also use the internet to source information. The aforementioned tour types could therefore be advertised online. The tours could be marketed in a way allowing the tourists themselves to decide what they want. To limit diverse and varying opinions, these flexible tours would have to be smaller than the usual coach tour size. Because these tourists are also impulsive, the Irish providers would have to adapt to last minute decisions. Although this segment would seem a difficult and high maintenance segment to target from the supply side, as mentioned, this segments' large expenditures on holiday, and their likelihood of possible revisits makes the *Family Free Independents* a segment worth targeting.

9.3.2 The Active Indulgers

Because this segment is the least interested in education and culture, tours designed with physical activities such as planned walking treks is one way to target this group. Although they are physically active, however, they also like to relax and are motivated by romantic factors.¹⁰² Although they spend the least, it is not because of low incomes but rather a lack of interest in any costly activities other than fine dining. Irish tourism bodies could appropriately target the *Active Indulgers* if they supplied for example, "activity orientated" tours or "picnic tours". One option that might effectively target this segment is "picnic tours" with locally produced food supplied in a romantic setting, perhaps on a hilltop or by the water. Because their main source of information is the internet, Irish tourist agencies could increase advertising online, providing all-inclusive packages whereby several different walking trips and fine dining experiences could be offered. For example, two to three days "activity orientated tours", or just a one day "picnic tour" as part of a generic coach tour could be a possible way to

¹⁰² 33.3% of the respondents in this segment, a larger percentage than any other segment, ticked "opportunity for romance" as a reason for a holiday.

target this segment. In addition, options could be provided allowing tourists to choose from a range of picnic/walking tours and/or fine dining experiences across the country. To tap into the indulgent side of this segment, as part of the package tour, the walking/ picnic tours could also be marketed to include the recently popular glamping experience (posh camping). An alternative activity tour could also include a “food tour”. These tours could last 1 to 2 days, educating the tourists on Ireland’s most indulgent locally produced foods (perhaps incorporating the (bi) weekly Irish farmer’s markets that take place nationwide). In addition, a package tour incorporating stops at local fine dining restaurants, and music venues could also be a way to target this group. There is therefore huge scope for Irish tourism providers to target this unique market segment. Maximising the economic benefits from this group is achievable by diversifying the tourism product.

9.3.3 The Family Focused Culturists

Thirdly, Irish tourism bodies could target the *Family Focused Culturists* if they supplied for example, “family orientated” tours or “cultural tours”. Although the *Family Focused Culturists* like group tours the least, there is scope for the Irish tourist market to capture this entire segment on a group tour, if they sell Ireland as a family orientated destination with organised family activities. Tours catering for three to four days (or longer) family activities, and a further three to four days, (or longer), pursuing cultural activities could attract this entire segment. There is huge scope if Irish tourism bodies successfully target this segment because the *Family Focused Culturists* consider past holiday experience as a source of holiday information. As the sampled market in this research is a first time visitor, the chances of repeat visitations are increased if the *Family Focused Culturists* are targeted appropriately.

The *Family Focused Culturists* also source their information from media campaigns, specifically network television and newspapers; family oriented advertisements could be developed through these mediums to target this

segment. In a separate campaign (or indeed in the same campaign) promoting Ireland as a destination rich in culture and cultural family activities would attract these tourists. Alternatively, Irish tourism bodies could promote family orientated cultural holidays to Ireland in North American newspapers as this is also of source of information for this group.

9.3.4 The Traditionalists

Finally, *The Traditionalists* typify the ‘generic coach tour’ package that is currently available to the North American coach tourist. To continue targeting this segment, tourism providers need to continue providing this type of tour whereby sightseeing (incorporating cultural and historic sites) and shopping, are the most common activities. Advertising via tour operators and travel agents, and advertising on cable television, are mediums by which to target these tourists. Although *the Traditionalists* are the smallest segment, for two reasons, they are a worthwhile segment for Irish tourism bodies to continue targeting. Firstly, *the Traditionalists* stay the longest on holiday, and secondly, *the Traditionalists* are mid to high spenders while on holiday. In addition, because *the Traditionalists* epitomise the ‘generic package tour’, they are an easy segment for Irish tourism providers to continue targeting.

9.3.5 Summary

Overall, supply side product offerings to enhance Ireland’s competitive advantage would involve targeting the:

- ❖ *Active Indulgers* with ‘activity tours’, ‘walking tours’ or ‘picnic tours’
- ❖ *Family Free Independents* with ‘family-free tours’ or ‘follow your own instinct tours’
- ❖ *Family Focussed Culturists* with ‘family focussed tours’, ‘family activity tours’ or ‘cultural activity tours’
- ❖ *Traditionalists* with ‘generic coach tours’

For Ireland to capitalise on all possible revenues generated by these segments, Irish tourism bodies could promote the abovementioned tours by using Ireland's heterogeneous regions. For example, the *Family Free Independents* could travel to the Blasket Islands for a day. *The Family Focused Culturists* could travel to the Ailwee caves and *The Active Indulger* could spend a few days in an outdoor adventure centre in the west of Ireland. In addition, for Ireland to successfully target these diverse segments Irish tourism bodies should market and promote Ireland as a destination that uses a cluster-specific marketing strategy. Irish tourism bodies could enhance product innovation like the suggested tours above, by promoting future cluster developments.

The research provided evidence that within the North American coach tourist market there are distinct sub sectors, which can be profitably exploited. These policy conditions, among others, would sell Ireland internationally. Ireland's current travel and tourism competitiveness ranking (19th) would increase, and Ireland's global competitiveness position (28th) would improve. Overall, this research is important as this research improves tourism policymakers' knowledge of a consistent, resilient, and revenue generating tourist market within the Irish tourism industry, the North American coach tourist. In addition, this research underpins practical product innovation of tourism products and provides a competitive advantage to tourist suppliers when deciding on the structure of tourism products.

9.4 Product Development: An Application

Section 9.3.5 suggests the type of segment specific tours that could be developed to cater for each segment. The section does not, however, explain *how* the tour packages are implemented. This section explains how a segment specific website was developed, as one example of a marketing tool, to deliver flexible, diverse, and specialised tours meeting the North American coach tourists' needs. The website enables managers to effectively reach the market and gain appropriate customer response (Lemon et al. 2006). Appendix Q shows details of this website. The website is a useful and practical way offering unique and customised

vacation options for the four clusters: *The Family Free Independents*, *The Active Indulgers*, *The Family Focused Culturists*, and *The Traditionalists*. Suggested travel routes are provided based on the coach tourists' travel and psychographic behaviours. The website was developed for four reasons.

- 1) The internet is a key source of information for *The Family Free Independents* and the *Active Indulgers*, the two largest segments with a combined total of 68 per cent of the overall sample. Moreover, 79 per cent¹⁰³ of the overall North American population use the internet as a communication medium.
- 2) Of the four clusters, *The Family Free Independents* use the internet as their primary source of holiday information. They are also the largest vacation spenders of the four and the most likely to revisit Ireland. Consequently, it is vitally important to offer tailored travel routes to target this segment correctly.
- 3) Based on the findings of Hsu (2003), and Lago and Poffley (1993), the website facilitated the development of flexible schedules, a 'follow your own instinct' interactive tool, and an option to create your own tour. Flexibility options such as car hire and a "hop on-hop off" coach were also included.
- 4) The internet is also a readily available, easily adaptable, and cheap medium for tourism stakeholders to advertise their customised offerings to the emerging clusters devised in this research.

Appendix Q shows four distinct tourist types highlighting the travel and psychographic needs of each segment. Sample routes ensure each segment is uniquely catered for.

¹⁰³ <http://www.internetworldstats.com/stats.htm>

Here are four examples, one for each segment:

- 1) *The Active Indulgers* would benefit from either a) a southern coach tour, b) a northern coach tour, or c) a mixed tour, all of which focus solely on active and indulging pursuits. As highlighted in Section 9.3.2, no emphasis is placed on educational and cultural activities. For example, this segment could go karting in Galway, Cycle in Dingle, shear sheep in Connemara, take surf lessons or kayak in Mayo, walk the Rope Bridge in Belfast, have a picnic at the Giant's Causeway, horse ride in Killarney, go Mountain Walking in Kerry, or go fine dining in Cork or Waterford. Inspired by Moschis's (2000, 2003 2004) 'healthy indulger' segment and Shoemaker's (2000) 'actives' segment, a unique and untapped coach tour is developed. (The same approach is adopted in the remaining three clusters.)

- 2) *The Family Free Independents* can benefit from a) a southern coach tour b) a northern coach tour or c) a mixed tour with tours excluding all family related activities- educational, cultural, physical, or otherwise. For example, this segment could go to Delphi activity centre in Clare, hire a car around the Burren or the ring of Kerry, visit Muckross Park in Killarney, take the ferry to the Blasket Islands, visit a famine museum in Mayo or take city walks in Cork and Galway. Inspired by Zins's (1999) 'family escapist' segment and Hsu and Lee's (2002) 'independent traveller' segment, focus is exclusively placed on the flexible aspect of the tour, with options to hire a car to 'follow their own instincts'. The option to create 'your own tour' is particularly suitable for this tour type.

- 3) *The Family Focused Culturists* can similarly benefit from a) a southern coach tour b) a northern coach tour or c) a mixed tour. For example, this segment could visit Bunratty Castle and part-take in a medieval banquet. This segment could visit the Aillwee Caves in

Clare, visit the Hunt museum in Limerick, visit a pet farm, or ring Shandon bells in Cork. In addition, the Family Focused Culturists could visit the Titanic museum in Cobh or Belfast, or take part in a children's play trail in Galway or visit Kylemore Abbey and gardens, visit Croagh Patrick in Mayo or visit the interactive discovery centre in Belfast. Inspired by Oates et al. (1996) 'family oriented' segment, and You and O'Leary's (2000) 'culture hounds' segment, tours within this cluster exclusively focus on family and culture.

- 4) *Traditionalists* typify the 'generic coach tour'. Coach tours in this instance, are non-specific, whereby tour packages are currently readily available by tour operators.

The diverse clusters and subsequent website development signal a capacity for tourism stakeholders to alter current tour packages catering for not one but *four* distinct tourist types. The website facilitates the targeting of market niche products at zero marginal cost (Anderson, 2004, 2008). In addition, the website positions¹⁰⁴ the diverse coach products in the tourist's minds. The website is an example of the transformation needed to respond to the emerging diverse travel and psychographic needs of the North American coach tourists.

9.5 Policy Implications and Recommendations

This section presents the research findings from three perspectives: The Irish tourism bodies, the tour agents, and the coach tourist. Recommendations are provided and previous initiatives promoting the development of diverse offerings are outlined.

9.5.1 Policy Implications for Irish Tourism Bodies

A transformation of tourism products and services is necessary. Hung and Petrick (2009) argue that it is ineffective to treat the general coach tourist

¹⁰⁴ See chapter 3 Section 3.1.1 for more on Kotler (1994) STP strategic marketing approach.

market as a homogeneous market or use a single marketing strategy to reach all coach tourists. Similarly, this research, using factor and cluster analysis, concludes that the North American coach tourist market to Ireland comprises not one but *four* distinct tourist types, with each of the four segments portraying different travel and psychographic behaviours. This result implies the ‘sightseers and culture seeker’ single marketing approach devised by Tourism Ireland (see page 263) is an ineffective approach to target the North American coach tourist to Ireland. Instead, four diverse marketing strategies are required. A renovation of tourism products and services is necessary in order to respond to the emerging needs of tourists (Hung and Petrick, 2009). Fáilte Ireland and Tourism Ireland must learn the value of diverse tour packages, and their subsequent potential for Irish tourism must be realised. Fáilte Ireland, Tourism Ireland, Local County, and City Councils as well as other relevant tourist stakeholders (for e.g. IHF, ITIC, CTTC) need to collaborate to successfully transform current North American tourist product offerings. Results show current offerings for the North American coach tourist lack sufficient diversity and flexibility. In order to fully appreciate all that Ireland has to offer, particular focus needs to be placed on the accessible and actionable¹⁰⁵ market segments highlighted here, only then can potential for growth in North American coach tourist visitor numbers be realised.

Irish tourism stakeholders can use a recent (December 2012) collaborative Dublin initiative between Dublin City Council, Fáilte Ireland and a number of other stakeholders as a reference point to capture the coach tour market segments. The initiative, ‘Destination Dublin- A Collective Strategy for Growth to 2020’ was developed by the Grow Dublin Taskforce to increase visitor numbers by 7% a year, visitor spending by 8.6% a year, and increase international spending to €2.5bn by 2020. The focus is to design sector-specific programmes to target Dublin’s key market segments: Social Energisers, Culturally Curious, ‘promotable’ business tourism, events, and cruise tourist. Accordingly, a similar collaborative initiative could be

¹⁰⁵ See Section 3.1 Kotler’s (1997) segmentation approach.

developed to target the four clusters highlighted here. Overall, this work facilitated the targeting of market niche products to help Tourism Ireland and Fáilte Ireland compete in diverse competitive marketplaces. Findings arising from this research recommend the tourism bodies to:

- Acknowledge the necessity for diverse tour packages
- Construct integrated collaborations for successful product synergies
- Strengthen external synergies between public and private sectors
- Take action to improve Ireland's competitiveness ranking

The overall challenge for Tourism Ireland and Fáilte Ireland is to represent the development of mixed marketing strategies (an example of which is presented in Appendix P) to create and promote Ireland as a segment specific coach tour destination brand. The mass coach tour market will consequently be replaced with specific tours fully exploiting all that Ireland has to offer.

9.5.2 Implications for Tour Agents

As mentioned, this research found that it is ineffective to direct tour packages focusing only on the sightseeing and culture-seeking tourist segment. This result suggests that tour operators increasingly need to adapt current product offerings to effectively appeal to the evolving needs of the North American coach tourist. Results show travel itineraries need to be more flexible, with a focus on specific themes such as physical activities and family and culture, consistent with Lago & Poffley's (1993) flexible and open tour schedules. Tour operators and travel agents need to cater to a diverse tourist market. Because mass coach offerings do not provide independence, the implementation of new, flexible, and diverse segment-specific tour packages are now a supply necessity. Marketing has to package product offerings (such as active and indulging activities, independent itineraries, and family and cultural oriented activities) to a wider range of tourists, and reposition these products on the international market. The niche products developed here therefore ensure the resources

spent on promotions reach the targeted audience (WTO 2007). Findings in this research therefore recommend tour agents to consider the following:

- Transform current tour offerings allowing flexibility within a tour, this could be facilitated by a ‘hop on hop off’ bus schedule, or indeed an option to hire a car (with the exception of the Traditionalists; current supply caters for this tourist).
- Adapt current tour offerings with particular focus placed on the independent tourist, the active indulging tourist, the family focused and culture-loving tourist.
- Create new tours delivering greater diversity and choice across all regions of Ireland.

This work shows the ‘follow your own instinct’ independent tourist is a key segment. Travel agents and tour operators therefore need to involve more local communities in destination marketing, to promote new independent coach tour activities (such as visiting the English Market in Cork City or the toy soldier factory in Macroom). In addition, travel agents and tour operators need to involve more local communities in, for example, the promotion of family, and family free activities. Tour operators need to collaborate with the Coach Tourism and Transport Council of Ireland (CTTC) to alter the bus routes currently available to the North American coach tourist. Tour operators also need to collaborate with travel agents and regional tourism associations (for example BITA Boston Irish Tourism Association) to ensure the right products and marketing mixes are delivered accurately to each segment. In addition, tour package changes should be emphasized and promoted (for example, the website in Appendix P), and communication media such as email, Twitter, Facebook, Vimeo, and YouTube, among others, should be used when the tour operators communicate with potential coach tourists. This transformation of tourist products will not only increase tourist satisfaction and repeat visits (Hsu,

2001, 2003; Lago and Poffley, 1993) but it will also expose a previously 'unseen' Ireland to a new and diverse North American coach tourist.

9.5.3 Implications for the Coach Tourist

Flexible schedules and segment specific tours will greatly appeal to the coach tourists. Greater tour choice and flexible tour schedules will not only increase tour satisfaction (Hsu, 2003; Badinelli, Davis and Gustin 1991) but it will also increase special interest travel (Anderson, 2004, 2008). No more vacation time will be wasted on activities offering little appeal. For example, the family free independents can now enjoy a vacation without family, and with a freedom and flexibility to do their own thing. The active indulgers can now enjoy a tour specifically catering for physical activities and good food and music. To match their needs, tours can skip cultural and historical events and experiences. The family focused culturists can enjoy family oriented activities as well as cultural activities. Finally, the traditionalist, the smallest segment (10 per cent of the sample), is the sole segment that will enjoy Tourism Ireland's 'sightseer and culture seeker' tour. The findings in this work therefore help the coach tourist enjoy a vacation tailored for their needs.

9.5.4 Supporting Initiatives

Proposals emphasising diverse offerings are not new, and have been emphasised in a number of reports. These proposals follow the spirit of a number of reports. Moreover, this research offers clear and strong evidence supporting their emphasis on segmentation.

In 2003, the Tourism Policy Review Group published *New Horizons for Irish Tourism: An Agenda for Action*, outlining the 2003-2012 tourism strategy. Its vision was for a "dynamic, innovative, sustainable and highly-regarded sector, offering overseas and domestic visitors a positive and memorable experience beyond their expectations" (Tourism Policy Review Group 2003:7).

In May 2007, the Irish government published “*A blueprint for Ireland’s future 2007 – 2012*”. The report emphasised developing rural-based package-style holidays, developing cultural events, promoting Ireland as a healthy activity holiday destination, enhancing access, and promoting and supporting the development of new tourism products.

The Irish Tourism Industry Confederation (2010) issued “*A Changed World for Irish Tourism - facing up to the challenges of recovery*”, following the next year with a report issued with the Irish Hotels Federation (Irish Tourism Industry Confederation 2011) “*Tourism Opportunity- Driving Economic Renewal*”. Both reports heavily emphasised the importance of getting the marketing right by strengthening research and development appropriate to evolving consumer needs.

In May 2011, Ireland’s new coalition¹⁰⁶ government issued its Programme for Government, which emphasised the promotion of ‘product clusters’ and ‘itineraries’¹⁰⁷ presenting the tourist with a menu of things to see and do when visiting particular parts of the country. Irish Tourism Industry Confederation (2011) highlighted a need to target tourists appropriately. They called for a more granular marketing approach promoting specific segments.

Finally, based on 14 pillars of competitiveness relating to travel and tourism, the Travel and Tourism Competitiveness report (World Economic Forum 2013) shows Ireland is currently ranked 19th out of 140 economies. Nevertheless, the National Competitiveness Council (2012)¹⁰⁸ urged the improvement of tourism competitiveness by examining the “degree of customer orientation”,¹⁰⁹ i.e., segmentation.

¹⁰⁶ Coalition between Fine Gael and Labour

¹⁰⁷ Examples could include a Viking and Norman Heritage Cluster in the south east and a Christian Heritage Trail, Garden Trails, Castle Trails, Genealogy Trails, and Cultural tourism in the Dingle Peninsula.

¹⁰⁸http://www.competitiveness.ie/media/11012012Irelands_Competitiveness_Challenge_2011-Publication.pdf

¹⁰⁹ This indicator lies under the 12th pillar of competitiveness: “Affinity for Travel and Tourism”.

Although initiatives in these reports share a common goal, with commitment and co-operation from all bodies, accurate policy direction and most importantly accurate product innovation and implementation will soon be realised.

9.6 Contribution to Knowledge and theory

The dissertation identified and described the segmentation of the coach tourist market. What else do we know because of this research that we did not know before?

There are two contributions. The first contribution, discussed in section 9.4.1, is to address the central question of the research: Are coach tourists different? The second contribution, discussed in section 9.4.2, is to extend the literature on tourist market segmentation.

9.6.1 Fáilte Ireland and Tourism Ireland

The central question of this research is whether coach tourists are different from other tourists to Ireland. Both Fáilte and Tourism Ireland make assertions about the segmentation of the Irish tourists in public documents, but have kept the underlying research confidential. In its Tourism Product Development Strategy for 2007-2013, Fáilte Ireland (2006) asserts the segmentation of tourists from our four primary sources: North America, Great Britain, Germany, and France. It breaks down those overseas tourists into seven groups (Fáilte Ireland, 2006: 74). Six of those groups are comparable to segments identified in this research.¹¹⁰

Tourism Ireland asserts that two of its segments (*Sightseers and culture seekers*, and *Family and loved ones*) constitute about 60 – 65 per cent of the tourists. These segments combined correspond to this research *Family Focused Culturists* segment, which is only 22 per cent of this sample. It asserts that two more segments (*Relaxers* and *Outdoor Activities*) combined

¹¹⁰ The strategy identifies the seventh as Luxury Lovers, who stay in five star hotels. Because the coach tours do not use such highly rated hotels, the dissertation misses these tourists, but Fáilte Ireland identifies them as no more than 1% of the market, so they are quantitatively insignificant.

constitute 15 per cent of the tourists. These segments combined correspond to this research *Active Indulgers* segment, which is 33 per cent of this sample. One segment (*Social Adventurers*) is alleged to be less than 10 per cent of the market, but it corresponds to this research *Family Free Independents*, segment that constitutes 35 per cent of this sample. The final Fáilte Ireland (*Affinity Groups*) reportedly constitutes only 2% of tourists, but it corresponds to this research segment *Traditionalists*, who make up 10% of this sample.¹¹¹ The null hypothesis stating tourism segments to Ireland generally are the same proportions as the segments in the North American coach trade (as highlighted in this research) is rejected at the 1 per cent level in a χ^2 test. Moreover, they are economically significant differences.

Tourism Ireland¹¹² makes the claim that 80 per cent of North American tourists into Ireland fall into their segment *Sightseers and Culture Seekers*. This segment is only part of one segment devised here, the *Family Focused Culturists*, and the *Family Focused Culturists* only make up 22 per cent of the current sample. This huge difference is also statistically significant at the 1 per cent level in a χ^2 test.

These two results show that the North American coach tourists are not typical of overseas tourists to Ireland generally, nor are they typical of even North American tourists (as portrayed by Tourism Ireland). This result implies that marketing to a smaller category of tourist, such as the coach tourist, cannot usefully rely on segmentation studies of much broader groups of tourists.

¹¹¹ Tourism Ireland's segments add up to a maximum of 93%. They offer no explanation why their segments do not total 100%.

¹¹²<http://www.tourismireland.com/CMSPages/GetFile.aspx?guid=18bdca34-6334-4c38-85f9-468c2568dd6b> (last accessed on 4 January 2014)

9.6.2 Segments: Replication and Overlap

The characteristics of the four segments uncovered in the Irish coach tourist market have been found in studies of tourist markets in other countries. This research therefore replicates the findings of other segmentation studies. It contributes to the idea that there is a common set of tourist characteristics across markets. Tables 9.9 through 9.12¹¹³ shows how the segmentation identified in other tourist markets is similarly found in the Irish coach market.

Those four tables, moreover, show a more important contribution of this research. The three largest segments (Family Free Independents, Active Indulgers, and Family Focused Culturists) do not merely replicate segments found in other research. They identify the overlap of previously identified segments.

Table 9.8 shows that the segment the Active Indulger is a combination of two previously separately identified segments: active tourists and indulgent tourists. Table 9.9 shows that the segment the Family Free Independent is a combination of two previously separately identified segments: tourists who want to travel independently, and tourists who are escaping from family. Table 9.10 shows that the segment the Family Focused Culturists is a combination of two previously separately identified segments: tourists looking for ways to spend more time with their families, and tourists looking for cultural experiences.

Table 9.8 shows the overlap of active and indulgent tourists.

¹¹³ See section 9.7 for limitations of these Tables.

Table 9.8 Active Indulger Contribution to Literature			
Literature	Segment derived/motivator: Active	Segment derived: Indulger	Contribution to segmentation studies
Dolnicar (2007)	Engagement in different activities		
Littrell et al. (2004)	‘active tourist’		
Cha et al. (1995)	‘sport seekers’		
Shoemaker (2000)	‘actives’		
Cleaver (1999)	‘physicals’		
Jonsson and Devonish (2008)	Physical activities motivator		
Lang and O’Leary (1997)	‘physical challenge seekers’		
Uysal and Jurowski (1994)	Recreational opportunities/fitness		
Moscardo et al. (1996)	Desire to part-take in physical activities.		
Horneman et al. (2002)			
Moschis (2000,2003 2004)		‘Healthy Indulger’	
Plog (1991)		‘Allocentric Traveller’	
Mayo and Jarvis (1981)		‘Status and Prestige’	
Devonish (2008)		‘relaxation and pleasure seeking’	
Fodness (1994) and Jang et al. (2009)		‘Ego enhancement’	
Ryan (2014)			‘The Active Indulger’

Table 9.8 shows ‘active’ segments and ‘indulging’ segments are not new to tourism segmentation research. However, the combination of both traits i.e. both ‘activity’ and ‘indulger’ combined, is unique to this research. *The Active Indulgents* segment exhibits traits previously separated within literature. Although, parallels can be made with Horneman et al. (2002) ‘the indulger’ segment, Moschis (2000,2003 2004) ‘healthy indulger’ segment, Shoemaker (2000) ‘actives’ segment and Cha et al. (1995) ‘sports seeker’ segment, among others, *the Active Indulgents* is a unique segment. Not only

is the segment specific to the North American coach tour market to Ireland, but the combinations of the activity and the indulging aspects is unique within tourism segmentation literature.

Table 9.9 shows the overlap of tourists escaping family and tourists who are looking for independence in their travelling.

Table 9.9 Family Free Independents Contribution to Literature			
Literature	Segment derived/motivator: Family free	Segment derived: Independent	Contribution to segmentation studies
Zins (1999)	‘family escapist’		
Ward (2006)	‘escapist’		
Letho’s et al. (2001)		Independent traveller	
Hsu and Lee’s (2002)		Independent traveller	
Pennington and Lane’s (2001)		‘uninvolved traveller’	
Dann (1977) ‘		get away from it all’	
Kastenholz, Davis and Paul (1999)		‘Independent ruralists’	
Yoon and Shafer (1997)		‘independent travellers’	
Ryan (2014)			

Table 9.9 shows ‘family escapist’ segments and ‘independent’ segments are not new to tourism segmentation research. However, the combination of both traits i.e. both ‘family’ and ‘independent’ combined, is unique to this research. *The Family Free Independents* segment exhibits traits previously separated within literature. Although parallels can be made with Zins (1999) ‘family escapist’ segment, and Hsu and Lee’s (2002) ‘independent traveller’ segment, among others, *the Family Free Independents* is a unique segment. Not only is it specific to the North American coach tour market to Ireland, but the combinations of escaping family and travelling

independently are two aspects that are unique within tourism segmentation literature.

Table 9.10 shows the overlap of tourists travelling for a family experience and tourists travelling for a cultural experience.

Table 9.10 Family Focused Culturists Contribution to Literature				
Literature	Segment derived/motivator: Family Focused	Segment derived: Culturists	Contribution to segmentation studies	
Oates et al. (1996)	‘family oriented’			
Lang and O’Leary’s (1997)	‘family vacationer’			
Jang et al. (2002),	‘family/outdoor activities seekers’			
Cha et al. (1995), and Kau and Lim (2003)	‘family/relaxation’ seekers			
Park and Yoon (2009)	‘family togetherness seeker’			
Shoemaker (1989)	‘family travellers’			
Crask (1981)		‘sightseers’ segment		
Ward (2006)		‘cultural explorer’		
Pizam and Calantone (1987)		“culturists”		
Lang and O’Leary (1997)		‘Culture and entertainment seekers’		
Yousefi and Marzuki (2012)		‘cultural and historical attractions’		
Goodrich’s (1978)		‘historical and cultural interest’		
Mayo and Jarvis (1981)		‘cultural motives’		
Cleaver et al. (1999)		‘learners’		
Glendon (1998)		‘intellectual motivator’		
You and O’Leary’s (2000)		‘culture hounds’		
Ryan (2014)				‘Family Focused Culturists’

Like the ‘*Active Indulgents*’ and the ‘*Family Free Independents*’ Table 9.10 shows ‘family’ segments and ‘cultural’ segments are not new to tourism segmentation research. However, the combination of both traits i.e. both ‘family’ and ‘cultural’ combined, is unique to this research. *The Family Focused Culturists* segment exhibits traits previously separated within literature. Although parallels can be made with, among others, Oates et al. (1996) ‘family oriented’ segment, Lang and O’Leary’s (1997) ‘family vacationer’ segment, Crask’s (1981) ‘sightseers’ segment, Goodrich’s (1978) ‘historical and cultural interest’ segment, Cleaver et al. (1999) ‘learners’ segment, and You and O’Leary’s (2000) ‘culture hounds’ segment, *the Family Focused Culturists* is yet again a unique segment. Not only is it specific to the North American coach tour market to Ireland, but like the *Active Indulgents* and the *Family Free Independents*, the combinations of the family focussed and cultural aspects is unique within tourism segmentation literature.

Table 9.11 shows the connection of the Traditionalist tourist to similarly identified segments in studies of other tourist markets. Unlike the other segments, the Traditionalist does not show an overlap of previously identified segments.

Table 9.11 Traditionalists Contribution to Literature		
Literature	Segment derived/motivator: Traditionalist	Contribution to segmentation studies
Plog (1972)	‘Psycho-centric traveller’	
You and O’Leary’s (2000)	‘Passive visitor’	
Kastenholz, Davis and Paul (1999)	‘Traditional ruralists’	
Boksberger and Laesser (2009)	‘Grizzled explorer’	
Goodrich (1978)	‘Passive entertainment’	
Park and Yoon (2009)	‘Passive tourist’	
Shoemaker (1989)	‘Older set’	
Ryan (2014)		‘Traditionalists’

9.7 Research Limitations and Future Research

Although the four clusters derived in this research are informative for Irish tourism stakeholders, the research is not without its caveats. Firstly, there were several limitations and constraints on the conduct and results imposed by the collaborating coach organisations in this study. For example although the researcher is extremely thankful to the collaborating coach organisations (Royal Irish Tours and C.I.E Tours) there were difficulties in obtaining details of marketing practices, including existing segmental assumptions. Such information was considered confidential by the coach organisations, and subsequently is outside the remit of this work.

Furthermore, due to the threat of withdrawal of the operator's cooperation, coach-specific survey questions were excluded from this research questionnaire. Specifically, the participating operators did not permit the researcher to ask questions relating to the tour package itself (e.g. trip pattern and trip design). The tour operators prohibited questions relating to the role of the tour operator when deciding the trip (e.g. service delivery and satisfaction, operator marketing practices, and motivation to choose a coach tour). Moreover, the tour operators did not permit questions relating to the actual coach and tour guide (e.g. bus facilities, tour guide quality, general tour quality etc.). Operator constraints therefore restricted this researcher from capturing a comprehensive interpretation of the North American coach tourist to Ireland. The work of Chacko and Nebel (1993), Duke and Persia (1993,1994, 1996a, 1996b), and Whipple and Thach (1988), which assessed the supply side of coach tourism (i.e., the coach tour operators, organization of tours, accommodations used, seasonality, promotion methods, tour types offered, tourists expectations, evaluations, and satisfactions of various tour characteristics) were therefore excluded from the remit of this research.

Future work analysing the same or indeed a greater number of coach organisations, including the above missing information, could prove interesting. Subsequent comparisons and contrasts with this current work could also be carried out.

Furthermore, the researcher was not able to ask the tourist what motivates them to choose a coach tour in the first instance. For example, without this information, it is possible for some of the derived clusters to look less like those of coach tourists, but simply groups who happen to be using coaches incidentally or instrumentally to pursue particular kinds of travel preference not inherently dependent upon coach transport. A critique of this research might mean that what this work reveals is not a profile of the North American coach tourists as a discrete group across the board as a distinctive segment, but in fact, a profile of North American tourists in general in relation to their previous, current, and future tourism tastes and experiences.

A third limitation associated with this research involves the sample population under analysis. Findings in this work show there are four distinct clusters within the North American coach tourist market to Ireland. These clusters were described (see section 9.6) as not typical of overseas tourists to Ireland generally, nor were they typical of the North American tourists (as portrayed by Tourism Ireland). Section 9.6 suggests marketing to a smaller category of tourist (the coach tourist), cannot usefully rely on segmentation studies of much broader groups of tourists. Although this result is true, the conclusion is based on a sample of coach tourists from two coach organisations. Consequently, it is impossible to be sure if these results are accurate without a control group of non-coach tourists responding to the exact same questionnaire to compare results.

These last two caveats point to an important prospect for future research. A full comparison of coach tourists to other tourists requires a survey of a much larger random sample of all tourists to Ireland. This suggests an important agenda for Fáilte Ireland and Tourism Ireland, conducting large scale surveys of visitors to Ireland, and making those surveys available to researchers. Future work assessing and comparing North American coach participants with North American non-coach tour participants would truly assess whether coach tourists are in fact typical or not typical of overseas tourists to Ireland generally, and whether coach tourists are typical or not typical of the North American tourists as portrayed by Tourism Ireland.

A further critique of this work lies within Tables 9.8 to 9.11 inclusive. These tables, although highly informative, may not be fully comparable because of differences in the questions asked. Care must therefore be taken when comparing *The Active Indulgers* segment with Horneman's et al. (2002) 'indulger' segment and Shoemaker (2000) 'actives' segments. Similarly, caution must be exercised when comparing *The Family Free Independents* segment with Zins (1999) 'family escapist' segment, and Hsu and Lee's (2002) 'independent traveller' segment, and also when comparing *The Family Focused Culturists* segment with Oates et al. (1996) 'family oriented' segment, and You and O'Leary's (2000) 'culture hounds' segment. Diverse questionnaire designs and target populations, among others, would suggest a level of caution when comparing segmentation studies. This limitation applies to all comparisons of survey work. This suggests potential benefits for cross border cooperation of tourist agencies in constructing surveys of tourists.

There are also other several potential future works arising from this current research. For example, because the four derived segments are unique to this research; further research exploring the special needs of these groups could prove interesting. Satisfaction, a variable outside the scope of this current research, has been used as a segmentation variable and 'recommendation by someone' is a popular pull motivation (Bigne and Andreu 2004; Lau and McKercher 2004; Fuller and Matzler 2008). While the segmentation bases and variables used here provide a useful and appropriate description of North American coach tourists, applying satisfaction and repeat intentions to classify tourists differently would improve the analysis for tourism stakeholders. The stakeholders would benefit from knowing about differences across clusters in both tourist satisfaction and in the degree to which they pass this information to others. There may be additional differences between first and repeat visitors.

This work was based on a single survey conducted over nine months. Subsequent surveys conducted at later dates could, by comparison with the current survey, offer a perspective on changing tourist preferences and the

changing international competition. Moreover, it would be useful to see if the segments described here are able to predict not only later arrivals from North America, but tourists travelling from places. Future research might be able to increase the sample size, or look at more disaggregated tourism to different regions of the country.

A similar multivariate analysis could also be carried out on tourists from other places such as Great Britain or Germany. While the results of this research may not be generalizable to the entire tourist market, they do extend the knowledge of an important component of it. As current research within tourism marketing literature has focused on destination marketing alliances (Wang and Xiang 2007), tourism planning (Sautter and Leisen 1999), and promotion (Sheehan, Ritchie and Hudson 2007) yet another possibility of future research could determine how Ireland's destination management organisations and Irish policy stakeholders could collaborate to effectively target the four segments highlighted here. Future research could also determine the current marketing input from all primary stakeholders and compare that to the segments highlighted here.

Finally, and possibly most importantly, Sections 9.4 and 9.5 suggest promoting future cluster developments with a renovation of tourism products and services to respond to the emerging needs of tourists (Hung and Petrick, 2009). To date, however, not only is there a paucity of research on the coach tour market in Irish tourism literature, the national tourism agencies, Fáilte Ireland and Tourism Ireland, have largely ignored the segment in their commissioned research. This research offers clear and strong evidence supporting an emphasis on coach tourism, segmentation, and segmentation research. Fáilte Ireland and Tourism Ireland must learn the value of and need for commissioned research to ensure all subsequent potential for Irish tourism is realised.

There is therefore a wealth of possibilities for future research arising from the conclusions and limitations surrounding this work.

9.8 Conclusions

The overall aim of this research: ‘develop a comprehensive segmentation model, using factor analysis and cluster analysis to assess the travel behaviours (trip type, holiday activities etc.) and psychographic behaviours (life focus, character types of tourists etc.) of the North American coach tourist visiting Ireland’, is complete. Although previous works analysed the North American coach tourist market in Ireland, no previous work has used a unique instrument (questionnaire) to factor analyse and cluster analyse this market in Ireland. This research devised four unique segments *the Active Indulgers, Family Focused Culturists, Family Free Independents, and Passive Traditionalists*. These segments contribute towards Irish tourism segmentation research. Despite the data limitations, the findings in this research advance the extant understanding of the North American coach tourist market in Ireland. The findings identify the market is not homogeneous. Diverse tour packages catering for diverse coach tourists are recommended.

The segmentation findings also present a competitive advantage for the Irish tourism sector. Segmentation analysis facilitated the promotion of and targeting of the North American coach tourist market in Ireland. In such a competitive market, this analysis increased the awareness of the North American tourists’ travel motivations, activities, behaviours, life focus, and character type. The ability of tourism marketers to design and implement policies is improved. The overall commercial viability of the coach tourist market is enhanced, and Ireland now has, as Lennon and Yeoman (2007:365) wrote about Scotland “an obligation to realise its full potential and maximise opportunities in order to sustain an everlasting industry”.

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Appendices

Appendix A

North American Numbers and Revenue

Overseas Tourism Numbers in Ireland 1985-2001								
	1985	1990	1995	1997	1999	2000	2001	% Δ 85vs2001
Britain	1,123 (57.6)	1,785 (57.7)	2,285 (54.0)	2,850 (56.9)	3,430 (57.7)	3,494 (55.7)	3,416 (57.6)	204.2
North America	423 (21.7)	443 (14.3)	641 (15.2)	777 (15.5)	950 (16.0)	1058 (16.9)	907 (15.3)	114.4
Total Overseas	1,951	3,096	4,231	5,007	5,943	6,266	5,930	203.9
<i>Source: Tourism Facts, Bord Failte/CSO in Deegan (2002)</i>								
<i>Percentage Share of Total Overseas tourism market in parentheses</i>								

Overseas Tourism Numbers in Ireland 2002-2010											
	2002	2003	2004	2005	2006	2007	2008	2009	2010	% Δ 02vs10	% Δ 07vs10
North America	844 (14)	892 (14)	956 (15)	937 (14)	1,034 (14)	1,071 (14)	953 (13)	892 (14)	844 (15)	0	-21.2
Total Overseas	5,919 (100)	6,178 (100)	6,348 (100)	6,763 (100)	7,417 (100)	7,739 (100)	7,436 (100)	6,555 (100)	5,653 (100)	-4.49	-26.95
<i>Source: CSO/Fáilte Ireland, Various years</i>											
<i>Percentage Share of Total Overseas tourism market in parentheses</i>											

Overseas Tourism Revenue (Euro) 1985-2001								
	1985	1990	1995	1997	1999	2000	2001	% Δ 85 vs 2001
North America	224.2 (38.5)	211.3 (20.9)	349.2 (21.4)	442.1 (21.9)	555.1 (23.7)	687.9 (25.4)	718.8 (24.0)	220.6
Total Overseas	582.8 (100.0)	1010.5 (100.0)	1633.4 (100.0)	2017.1 (100.0)	2342.7 (100.0)	2,711.2 (100.0)	2990.1 (100.0)	413.0
<i>Source: Deegan (2002)</i>								
Note: Revenues exclude passenger fare receipts of Irish Carriers								

Appendix B

Other External Factors Affecting Tourism

Sequence of events and trends in tourist arrivals during and after the crisis, Q3 2007-Q4 2010
(% changes over same quarter in previous year)

Quarter	Events	Trend in tourist arrivals (%)	
		World	Europe
Q3 2007	Turmoil on financial markets (Aug): fears about losses on sub-prime mortgages, etc	+6.9	+4.2
Q4 2007	Run on Northern Rock (Sep) Global Warming conference in Bali (Dec)	+7.3	+6.3
Q1 2008	Turmoil on stock markets (Jan) Collapse of Bear Stearns (Mar)	+8.2	+6.4
Q2 2008	International oil prices reach US\$120/barrel Typhoon in Indian Ocean; earthquake in Sichuan	+4.0	+2.0
Q3 2008	Beijing Olympics (Aug) Rescue of Freddie Mac and Fannie Mae	-0.7	-1.2
Q4 2008	Collapse of Lehman Bros (Sep), AIG and others Financial markets seize up; collapse in world trade	-2.4	-4.5
Q1 2009	Barack Obama sworn in (Jan) Rescue of Citibank, Bank of America and others	-10.2	-12.5
Q2 2009	(A)H1N1 rated as 'imminent pandemic' (Apr) General Motors files for bankruptcy (Jun)	-6.3	-6.8
Q3 2009	Asian economic recovery well underway Tamil Tigers defeated (Aug)	-1.3	-1.3
Q4 2009	Dubai World threatens to default Copenhagen Conference on global warming	+1.2	-2.2
Q1 2010	Earthquake in Haiti (Jan) Greek financial crisis spiralling out of control	+6.6	+1.8
Q2 2010	Volcanic eruption disrupts European air travel (Apr) €750 bn rescue fund for euro (May)	+7.1	+2.8
Q3 2010	FIFA World Cup in South Africa (Jun-Jul) Floods in Pakistan and China (Aug)	+7.0	+4.1
Q4 2010	ECB/IMF financial rescue for Ireland (Nov) 'Big freeze' in Europe (Nov-Dec)	+5.6	+4.2

Source (arrivals data): World Tourism Organization (UNWTO)

Appendix C

Tour Operator Profiles as of 2011	
CANADA	
Connaissance Travel & Tours	Tour operator specialising in knowledge based experiences. Escorted group tours, special interest tours including cultural, golf, culinary, educational, pilgrimages, heritage and activity.
Craig Travel	Company specialises in escorted group tours for seniors. Major tourist sites, cultural events and activities.
Royal Irish Tours	Royal Irish Tours celebrating 10 years as Canada's leading tour operator to Ireland. Our 60 page stand alone brochure features a first class tour programme, various driving holidays, car rental, chauffeur drive, cottage rental and hotel accommodation.
U.S.A	
Abercrombie & Kent USA LLC	A deluxe tour operator offering custom designed private tours (FIT), escorted tours and special interest groups.
Brendan Vacations	Escorted Series, Boutique Escorted Vacations and full service Customised Travel. Features first class and deluxe programmes.
CIE Tours International/USA	Established 79 years ago, CIE Tours offers the largest selection of scheduled coach tour programmes to Ireland and Britain, with 31 tours to choose from. We are Group Tour specialists, also offer a diverse range of independent and chauffeur drive packages to suit all budgets.
Celtic Golf	Established in 1990, Celtic Golf is a family owned and operated company dedicated to providing our clients with exceptional service and memorable Ireland vacation experiences. Programming offered: golf, incentive, special interest tours, group tours and FIT.
Elderhostel/Road Scholar	Road Scholar is the name for educational group travel programmes, developed and offered by Elderhostel Inc. The not for profit world leader in lifelong learning since 1975. Our mission is to empower adults to explore the world's places, peoples, cultures and ideas, and in so doing to discover more about themselves.
Global Consolidated Services	GCS is a family owned company offering quality value vacations to Ireland for over 29 years. GCS offers all aspects of travel to Ireland to include self drive, go-as-you-please, B&B vacations to 5* chauffeur driven tours.
Go Global Travel Group	Wholesale and retail tour operator, specialising in groups, FITs and deluxe small group travel, meeting & incentive travel with on line booking of accommodation and all Ireland motor coach tours including small family groups with driver guide.
Isle Inn Tours	Dedicated Ireland tour operator specialising in customised FIT and group tours; self drive; chauffeur and motor coach. We offer a selection of activity based holidays including cycling, hiking and golf.
Lynott Tours Inc.	Tour operator since 1970, offering FITs, small group tours. Markets through us and Canadian Travel Agencies, extensive website. Produces own brochure.
O'Leary Tours	Our company targets golfers, honeymooners, spa packages, Christian Heritage sights, music festivals, horse racing, fly/drive, chauffeur drive and coach tours. We design the programmes to suit our clients' needs.

Patrician Journeys Inc.	Custom designed Northern Ireland for upscale FIT/small group clients. In development, a Commemorative Titanic Tour for 2012. Focus on the natural beauty and ancient history of the land.
Sportstours	Individual, group and corporate travel to major golf destinations worldwide as well as all inclusive travel packages to major professional golf events worldwide.
Tenon Tours	Boston based tour operator focusing on Ireland and UK specialising in custom FIT and Group Travel, self drive, special event, theme tours and educational programmes.
The Irish Connection	Specialising in travel for heritage, gardens, golf, food and wine for groups, families, couples. Touring by coach and car, staying in hotels, castles, B&Bs and cottages.
Time Travel	Established in 1998 as an incoming tour operator to Ireland and Northern Ireland, Time Travel has a unique focus on genealogy, gardens and learning holidays incorporating the new foodie movement into all products. We specialise in FIT and small groups offering the more hidden Ireland.

Appendix D

Phase One Survey

The focus of this questionnaire is on suitably targeting your tourism requirements when visiting Ireland. The questionnaire asks questions on your general lifestyle, tourism attributes and some demographic characteristics.

All information provided, is confidential.

Thank you most sincerely, for taking the time to complete this

North American State/Province _____

1. Please tick(√) which TWO of the following best describes your TYPICAL vacation?

City Trip		Educational vacation	
Countryside vacation		Touring vacation	
Sun vacation		Adventure vacation	
Activity vacation		Religious vacation	
Cultural/heritage vacation		Visiting family/friends	

2. What is the AVERAGE NUMBER of NIGHTS you spend on any VACATION? (either domestic or international)

3. What SEASON do you USUALLY go on vacation? (Please (√))

Spring		Autumn/Fall	
Summer		Winter	

4. WHERE do you usually GO on a leisure vacation?

5. Which of the following influence your CHOICE of destination? Please (√) where 1 is LEAST important, 5 is MOST important.

	1	2	3	4	5
A safe and secure location					
Ease of driving myself at destination					
Ease of getting there					
Interesting history					
Cultural and artistic attractions					
The best deal on offer					
Quality of scenery					
Trying new foods					
Recommendation from friends					
Availability of high quality accommodation					
Activities available					
An exotic atmosphere					
Good value for money					
Nice weather					
Meet indigenous people					
Other (Please specify)					

6. How important are the following for YOU to go on a LEISURE vacation? (✓)EACH, where 1 is LEAST and 5 is MOST important.

	1	2	3	4	5
To get away from it all					
See new and different culture and lifestyle					
To go places my friends have never been					
For my personal growth					
Go a place I have never been					
To get a break from work					
To indulge in luxury					
To do some crazy fun things					
To learn more things about the world					
To experience a simpler life					
To find love					
Quality time with Spouse					
For health reasons					
For religious reasons					
To reminiscence					
Other (Please specify)					

7. How important are the following ACTIVITIES to YOU while on any vacation? Please (√)

	Last Holiday	Ideal Holiday
Visiting relatives and friends		
Tracing roots/Genealogy		
Historical activities		
Ethnic culture events		
Local festivals		
Sunbathing/beach activities		
Museum/art gallery activities		
Nature activities		
Guided tours/excursions		
Mountainous areas		
Natural ecological sites		
Spiritual/religious activities		
Artistic and literary activities		
Tennis		
Water-sports		
Equestrian		
Golf		
Cycling		
Walking/Hill walking/Hiking		
Fishing		
Bird watching		
Theatre act/stage show		
Fine dining		
Music/Food		
Shopping		
Spa treatments / massage		
Other (Please specify)		

9. I PREFER VACATIONS, specifically catering for: Please tick (✓)

Single (Lone) tourists		Groups of tourists	
Couples		Families	
Travelling with grandchildren		Tourists with disabilities	

10. How much do you SPEND on vacations each year (include everything)? (Please (✓) CLOSEST estimate)

Up to \$3,000		\$3,001 – \$4,500	
\$4,501 – \$6,000		\$6,001 – \$7,500	
\$7,501 – \$9,000		\$9,001 – \$10,500	
\$10,501 – \$12,000		\$12,000+ >	

11. Which of the following have STOPPED you from going on vacation? (Please (✓))

Lack of money	
Lack of travel companion	
Spouse dislikes flying	
Family commitments	
Flights too long	
Lack of time	
Better things to do	
Travel interrupts my regular routine	
Commitments to work	
Too much planning required	
Health problems	
Lack of interest	
Fear of terrorism	
Looking after pets	
Other (Please specify)	

12. What accommodation type(s) do you use on vacation? Use per cent

	Hotel	Friends Relative s	Cruise- ships	Guesths e/B+B	Caravan /Campin g	Own Vacation home	Other (pleas e specif y
Per cent %							

13. What was the PRIMARY purpose of your most recent trip to Ireland?
(Please (✓) ONE)

Vacation/recreation/leisure		Honeymoon	
Business meeting/Conference		Attend/participate in a sporting event	
Visit friends or relatives		Incentive/reward trip	
Part of European trip		Study/Teaching	
Attend/participate in cultural/historical event.		Other (Please specify)	

14. On that trip, did you travel... (Please (✓) ONE)

Alone	
With my spouse	
With other members of my family	
With my friends	
With my girlfriend/boyfriend	
Part of a group. Please specify name:	

15. Including yourself, what are the ages of your IMMEDIATE travelling party (if any)? (Please tick (✓) as appropriate)

Age	YOURSELF		OTHERS	
	Male	Female	Male	Female
<15 years				
16-18 years				
19-24 years				
25-34 years				
35-44 years				
45-54 years				
55-64 years				
65-74 years				
>75 years				
Total				

16. What is the total duration of THIS vacation?

17. What other country have/will you visit (if any) while on THIS vacation? _____

18. How many days in total did you stay in Ireland?

19. Please number the top 3 information sources you used. Where 1=1st choice, 2= 2nd choice and 3=3rd choice

Tour Operator	
Word of mouth	
Irish Tourist Information offices	
Irish Tourist Board literature	
Personal experience from past visit	
Media (Radio/TV)	
Books	
Internet/Websites (Specify address)	
Other (please specify)	

20. What did you ENJOY the MOST about this trip?

21. What did you ENJOY the LEAST?

22. What ONE thing, would have made your vacation BETTER?

23. Did THIS trip... (Please (√))

Exceed your expectations	
Did not meet your expectations	
Met your expectations	

24. Over the next 5-10 years, how likely are you to REVISIT Ireland? (√)

Very likely		Somewhat likely	
Not too likely		Not at all likely	

25. In your LEISURE time, which ONE of the following do you spend MOST time a WEEK doing? (Please (√))

Watching Cable T.V		Listening to the radio	
Watching Network T.V		Reading magazines	
Surfing the internet		Reading newspapers	
Other interests (Please specify)			

26. What is your current MARITAL status? (Please (√))

Married		Single	
Widowed		Separated	
Divorced		Other (please specify)	

27. How IMPORTANT will the following be in your life, over the next 5 to 10 years? Please (√) where 1 is LEAST important and 5 is MOST important.

	1	2	3	4	5
Family					
Travelling more					
Looking after my health					
Strengthening my faith (spiritual)					
Developing new skills					
Caring for the environment					
Working in my dream occupation					

28. For the following, please tick (√) YOUR level of agreement. 1 is LEAST agree and 5 is MOST agree.

	1	2	3	4	5
Traditional values are very important to me.					
Cultural enrichment is very important to me.					
I look forward to retiring.					
Financial enrichment is important to me.					
I always keep up with new trends.					
Routine suits me.					
I live a physically active life.					
I consider myself liberal.					

29. What kind of JOB do you have? (Please (√))

Retired		Craftsman / Factory worker	
Manager / Executive		Government / Military	
Professional / Technical		Homemaker	
Teacher/Nurse		Other (Please specify)	

30. What is your highest level of education? (Please (√))

No Formal		Degree	
Elementary		Masters	
Junior High		Doctorate	
Senior High		Other (Please specify):	

31. Which of the following best estimates your HOUSEHOLD'S ANNUAL DISPOSABLE INCOME? (Please (√))

<\$30,000		\$30,000 - \$49,999	
\$50,000 - \$69,999		\$70,000 - \$89,999	
\$90,000 - \$109,999		\$110,000 - \$129,999	
\$130,000 - \$149,999		\$150,000 + >	

Any other comments about your holiday in Ireland:

Thank you most sincerely, for taking the time to complete this questionnaire.

Please return this questionnaire using the stamped addressed envelope provided

Email: Marie.ryan@ul.ie

Phase Two: Group Interview Questions

1. When and what type of holiday do you usually go on?

City/educational; tour/package; with friends/group; summer/winter

2. In terms of holiday choice, how do you choose one destination over another?

Safety/ Location/ Best scenery/ Cheap

3. Why do you go on holiday?(main reason)

Relax /Quality time with family/ Escape/Nice Weather

4. How do you spend your free time while you are on vacation?

Visiting historical sites/Walking/Cycling/Family oriented

5. Under what conditions would prohibit you from travelling?

Money /Health issues

6. In terms of your lifestyle, what type of person do you consider yourself to be?

Traditional/independent/money driven

7. General comments on the tour

Phase Three Final Survey

The focus of this questionnaire is on suitably targeting your tourism requirements when visiting Ireland. The questionnaire asks questions on your general lifestyle, tourism attributes and some demographic characteristics.

All information provided, is confidential.

Thank you most sincerely, for taking the time to complete this questionnaire.

Name: (Optional) _____

Address: (Optional) _____

North American State/Province: _____

1. Please tick(√) which TWO of the following best describes your TYPICAL vacation?

City Trip		Educational vacation	
Countryside vacation		Touring vacation	
Sun vacation		Adventure vacation	
Activity vacation		Spiritual vacation	
Cultural/heritage vacation		Visiting family/friends	

2. What is the AVERAGE NUMBER of NIGHTS you spend on any VACATION? (either domestic or international)

3. What SEASON do you USUALLY go on vacation? (Please (√))

Spring		Autumn/Fall	
Summer		Winter	

4. WHERE do you usually GO on a leisure vacation?

5. Which of the following influence your CHOICE of destination? Please (√) where 1 is LEAST important, 5 is MOST important.

	1	2	3	4	5
A safe and secure location					
Ease of getting there					
Interesting history					
Quality of scenery					
Recommendation from friends					
Availability of high quality accommodation					
Good value for money					
Nice weather					
Other (Please specify)					

6. How important are the following for YOU to go on a LEISURE vacation? (√)EACH, where 1 is LEAST and 5 is MOST important.

	1	2	3	4	5
To escape					
Experience new culture					
For personal growth					
For adventure					
To learn new things					
Opportunity for romance					
Quality time with family/Spouse					
For rest and relaxation					
For nostalgia purposes					
Other (Please specify)					

7. How important are the following ACTIVITIES to YOU while on any vacation? Please (√) 1 is LEAST important, 5 is MOST important.

	1	2	3	4	5
Visiting relatives and friends					
Tracing roots/Genealogy					
Historical activities					
Museum/art gallery activities					
Nature activities					
Guided tours/excursions					
Spiritual activities					
Artistic and literary activities					
Water-sports					
Equestrian					
Golf					
Cycling					
Walking/Hill walking/Hiking					
Theatre act/stage show					
Fine dining					
Music/Food					
Shopping					
Spa treatments / massage					
8. What is the MOST <u>IMPORTANT ACTIVITY</u> for you on any vacation?					

9. I PREFER VACATIONS, specifically catering for: Please tick (√)

Single (Lone) tourists		Groups of tourists	
Couples		Families	
Travelling with grandchildren		Tourists with disabilities	
Other (Please specify)			

10. In relation to TRAVEL, please CIRCLE EACH one you identify with MOST.

1. Impulsive	OR	Planner
2. Travel by car	OR	Travel by coach
3. Follow my own instincts	OR	Listen to experts
4. Time with myself	OR	Time with friends
5. Do new things	OR	Settle in routine
6. Seeks information	OR	Waits for information
7. Fully escorted tours	OR	Non-escorted tours
8. Travel with like-minded tourists	OR	Travel with diverse tourists

11. How much do you SPEND on vacations each year (include everything)? (Please (√) CLOSEST estimate)

Up to \$3,000		\$3,001 – \$4,500	
\$4,501 – \$6,000		\$6,001 – \$7,500	
\$7,501 – \$9,000		\$9,001 – \$10,500	
\$10,501 – \$12,000		\$12,000+ >	

12. Which of the following have STOPPED you from going on vacation? (Please (√))

Lack of money	
Lack of travel companion	
Family commitments	
Lack of time	
Commitments to work	
Health problems	
Lack of interest	
Fear of terrorism	
Looking after pets	
Other (Please specify)	

13. What accommodation type(s) do you use on vacation? Use per cent

	Hotel	Friends Relative s	Cruise- ships	Guesths e/B+B	Caravan /Campin g	Own Vacation home	Other (pleas e specif y
Per cent %							

14. What was the PRIMARY purpose of your most recent trip to Ireland?
(Please (√) ONE)

Vacation/recreation/leisure		Honeymoon	
Business meeting/Conference		Attend/participate in a sporting event	
Visit friends or relatives		Incentive/reward trip	
Part of European trip		Study/Teaching	
Attend/participate in cultural/historical event.		Other (Please specify)	

15. On that trip, did you travel... (Please (√) ONE)

Alone	
With my spouse	
With other members of my family	
With my friends	
With my girlfriend/boyfriend	
Part of a group. Please specify name:	

16. Including yourself, what are the ages of your IMMEDIATE travelling party (if any)? (Please tick (√) as appropriate)

Age	YOURSELF		OTHERS	
	Male	Female	Male	Female
<15 years				
16-18 years				
19-24 years				
25-34 years				
35-44 years				
45-54 years				
55-64 years				
65-74 years				
>75 years				
Total				

17. What is the total duration of THIS vacation? _____

18. What other country have/will you visit (if any) while on THIS vacation? _____

19. How many days in total did you stay in Ireland?

20. Please number the top 3 information sources you used. Where 1=1st choice, 2= 2nd choice and 3=3rd choice

Tour Operator	
Word of mouth	
Irish Tourist Information offices	
Irish Tourist Board literature	
Personal experience from past visit	
Media (Radio/TV)	
Books	
Internet/Websites (Specify address)	
Other (please specify)	

21. What did you ENJOY the MOST about this trip?

22. What did you ENJOY the LEAST?

23. What ONE thing, would have made your vacation BETTER?

24. Did THIS trip... (Please (√))

Exceed your expectations	
Did not meet your expectations	
Met your expectations	

25. Over next 5-10 years, how likely are you to REVISIT Ireland? (√)

Very likely		Somewhat likely	
Not too likely		Not at all likely	

26. In your LEISURE time, which ONE of the following do you spend MOST time a WEEK doing? (Please (√))

Watching Cable T.V		Listening to the radio	
Watching Network T.V		Reading magazines	
Surfing the internet		Reading newspapers	
Other interests (Please specify)			

27. What is your current MARITAL status? (Please (√))

Married		Single	
Widowed		Separated	
Divorced		Other (please specify)	

28. How IMPORTANT will the following be in your life, over the next 5 to 10 years? Please (√) where 1 is LEAST important and 5 is MOST important.

	1	2	3	4	5
Grandchildren					
Family					
Travelling more					
Looking after my health					
Strengthening my faith (spiritual)					
Developing new skills					
Caring for the environment					
Enjoying more of life's luxuries					
Technology/Gadgets/Internet					
Sharing my beliefs with others					
Working in my dream occupation					

29. For the following, please tick (√) YOUR level of agreement. 1 is LEAST agree and 5 is MOST agree.

	1	2	3	4	5
I choose to associate with younger people.					
Traditional values are very important to me.					
I enjoy being on my own.					
Cultural enrichment is very important to me.					
I look forward to retiring.					
Financial enrichment is important to me.					
I always keep up with new trends.					
Routine suits me.					
Modern technology challenges me.					
I live a physically active life.					
I consider myself liberal.					
I am a risk taker.					

30. What kind of JOB do you have? (Please (√))

Retired		Craftsman / Factory worker	
Manager / Executive		Government / Military	
Professional / Technical		Homemaker	
Teacher/Nurse		Other (Please specify)	

31. What is your highest level of education? (Please (√))

No Formal		Degree	
Elementary		Masters	
Junior High		Doctorate	
Senior High		Other (Please specify):	

32. Which of the following best estimates your HOUSEHOLD'S ANNUAL DISPOSABLE INCOME? (Please (√))

<\$30,000		\$30,000 - \$49,999	
\$50,000 - \$69,999		\$70,000 - \$89,999	
\$90,000 - \$109,999		\$110,000 - \$129,999	
\$130,000 - \$149,999		\$150,000 + >	

33. What is your overall HEALTH LEVEL on a scale of one to five where 1 is "poor" and 5 is "excellent:

Other Comments about your health:

Any other comments:

Thank you most sincerely, for taking the time to complete this questionnaire.

Please give this questionnaire to your driver at the END of your trip.

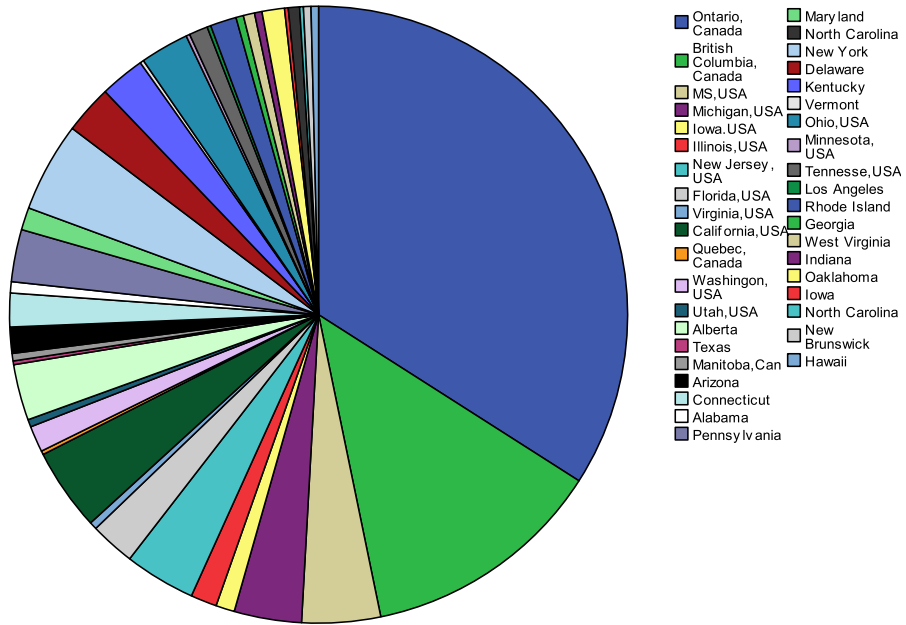
Phone no: +35321 4902573 Email: Marie.ryan@ul.ie

Appendix E

Response Rates Per State

North American State	Frequency	Percent %	CumPercent %
Ontario,Canada	174	34.1	34.1
Manitoba,Can	2	.4	34.5
New Brunswick	2	.4	34.9
Quebec,Canada	1	.2	35.1
Alberta	15	2.9	38
British Columbia,Canada	65	12.7	50.7
MS,USA	21	4.1	54.8
Michigan,USA	18	3.5	58.3
Iowa,USA	5	1.0	59.3
Illinois,USA	7	1.4	60.7
New Jersey,USA	19	3.7	64.4
Florida,USA	12	2.3	66.7
Virginia,USA	2	.4	67.1
California,USA	22	4.3	71.4
Washington,USA	7	1.4	72.8
Utah,USA	2	.4	73.2
Texas	1	.2	73.4
Arizona	7	1.4	74.8
Connecticut	9	1.8	76.6
Alabama	3	.6	77.2
Pennsylvania	14	2.7	79.9
Maryland	6	1.2	81.1
North Carolina	3	.6	81.7
New York	24	4.7	86.4
Delaware	13	2.5	88.9
Kentucky	12	2.3	91.2
Vermont	1	.2	91.4
Ohio,USA	13	2.5	93.9
Minnesota,USA	1	.2	94.1
Tennessee,USA	5	1.0	95.1
Los Angeles	1	.2	95.3
Rhode Island	7	1.4	96.7
Georgia	2	.4	97.1
West Virginia	3	.6	97.7
Indiana	2	.4	98.1
Oaklahoma	6	1.2	99.3
Iowa	1	.2	99.5
North Carolina	1	.2	99.7
Hawaii	2	.4	100.1
Total	511	100.0	

North American state/province



Appendix F

Testing for Suitability of Factor Analysis

Qst 5 Pull motivation

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.775
Bartlett's Test of Sphericity	Approx. Chi-Square	871.876
	df	28.000
	Sig.	.000

Qst 6 Push motivations

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.782
Bartlett's Test of Sphericity	Approx. Chi-Square	1169.359
	df	36.000
	Sig.	.000

Qst 7 Activities

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.916
Bartlett's Test of Sphericity	Approx. Chi-Square	4666.461
	df	153.000
	Sig.	.000

Qst 12 Holiday constraints

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.855
Bartlett's Test of Sphericity	Approx. Chi-Square	1002.056
	df	36.000
	Sig.	.000

Qst 31 life focus over the next five to ten years

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.792
Bartlett's Test of Sphericity	Approx. Chi-Square	1491.263
	df	55.000
	Sig.	.000

Qst 32 Character Type

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.803
Bartlett's Test of Sphericity	Approx. Chi-Square	1110.559
	df	66.000
	Sig.	.000

Appendix G

Factor Analysed Questions

1. Which of the following influence your CHOICE of destination? Please (√) where 1 is LEAST important, 5 is MOST important. (PULL MOTIVATION)

	1	2	3	4	5
A safe and secure location					
Ease of getting there					
Interesting history					
Quality of scenery					
Recommendation from friends					
Availability of high quality accommodation					
Good value for money					
Nice weather					

2. How important are the following for YOU to go on a LEISURE vacation? (√)EACH, where 1 is LEAST and 5 is MOST important. (PUSH MOTIVATION)

	1	2	3	4	5
To escape					
Experience new culture					
For personal growth					
For adventure					
To learn new things					
Opportunity for romance					
Quality time with family/Spouse					
For rest and relaxation					
For nostalgia purposes					

3. Which of the following have STOPPED you from going on vacation? (Please (√)) (CONSTRAINTS)

Lack of money	
Lack of travel companion	
Family commitments	
Lack of time	
Commitments to work	
Health problems	
Lack of interest	
Fear of terrorism	

4. How important are the following ACTIVITIES to YOU while on any vacation? Please(√)1 is LEAST important, 5 is MOST important.

	1	2	3	4	5
Visiting relatives and friends					
Tracing roots/Genealogy					
Historical activities					
Museum/art gallery activities					
Nature activities					
Guided tours/excursions					
Spiritual activities					
Artistic and literary activities					
Water-sports					
Equestrian					
Golf					
Cycling					
Walking/Hill walking/Hiking					
Theatre act/stage show					
Fine dining					
Music/Food					
Shopping					
Spa treatments / massage					

5. How IMPORTANT will the following be in your life, over the next 5 to 10 years? Please (√) where 1 is LEAST important and 5 is MOST

	1	2	3	4	5
Grandchildren					
Family					
Travelling more					
Looking after my health					
Strengthening my faith (spiritual)					
Developing new skills					
Caring for the environment					
Enjoying more of life's luxuries					
Technology/Gadgets/Internet					
Sharing my beliefs with others					
Working in my dream occupation					

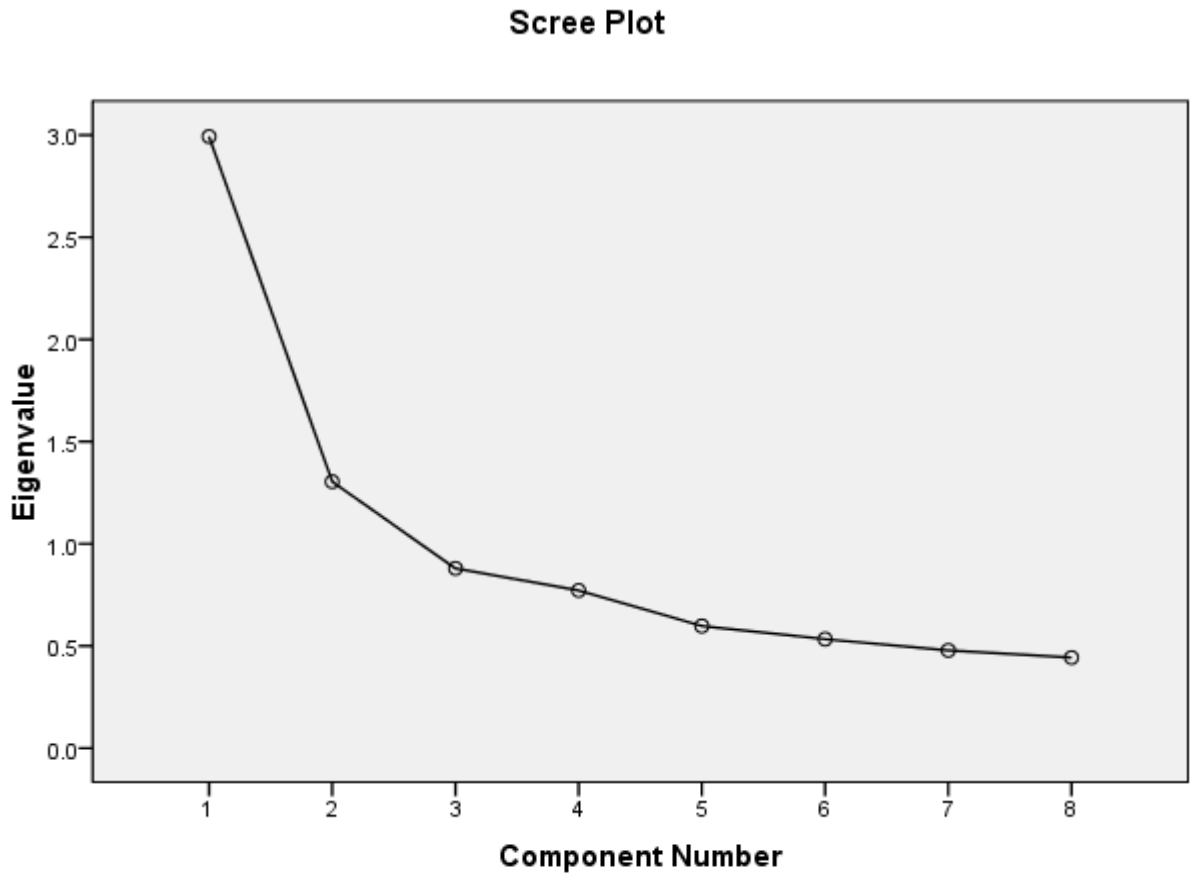
important.

6. For the following, please tick (√) YOUR level of agreement. 1 is LEAST agree and 5 is MOST agree.

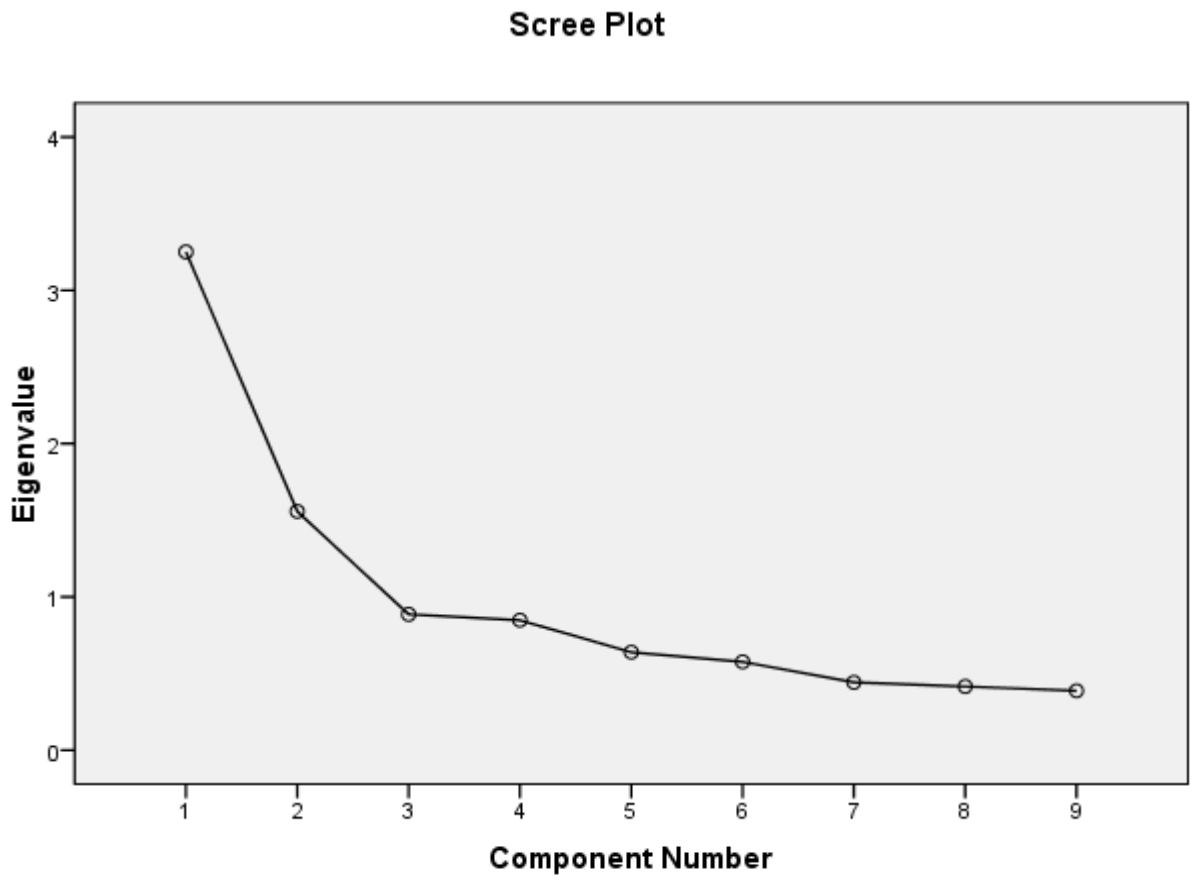
	1	2	3	4	5
I choose to associate with younger people.					
Traditional values are very important to me.					
I enjoy being on my own.					
Cultural enrichment is very important to me.					
I look forward to retiring.					
Financial enrichment is important to me.					
I always keep up with new trends.					
Routine suits me.					
Modern technology challenges me.					
I live a physically active life.					
I consider myself liberal.					
I am a risk taker.					

Appendix H Third Retention Method: Scree Plots

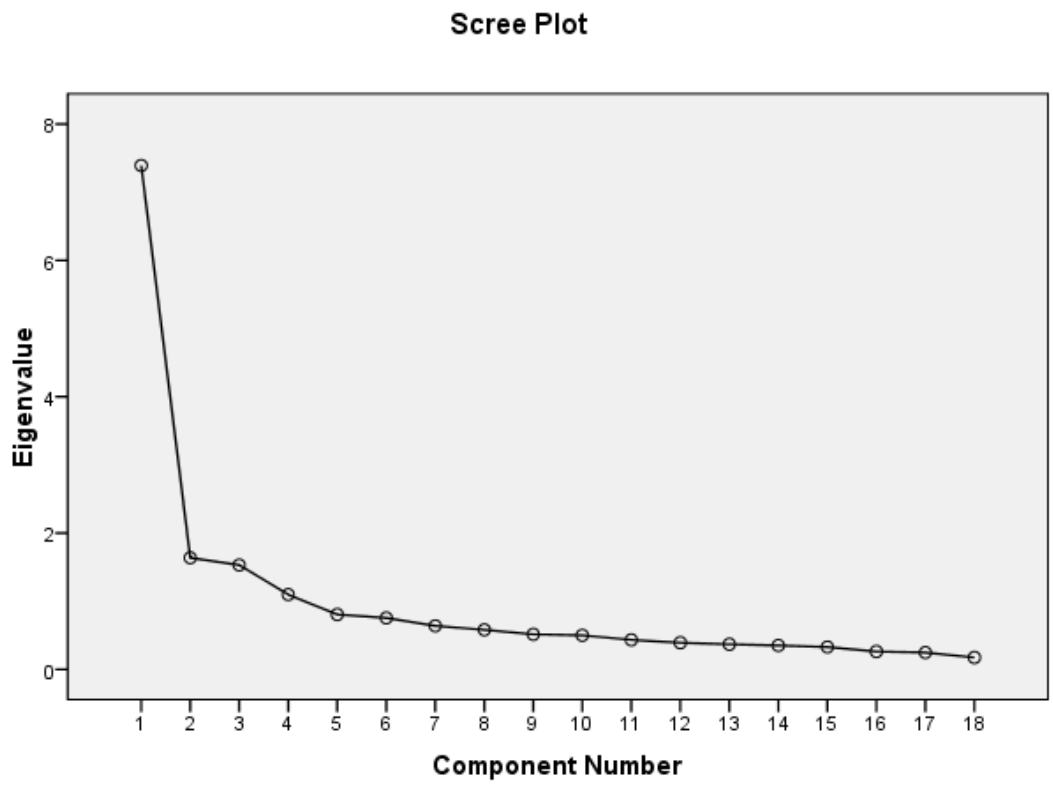
Qst 5 Push motivation Scree Plot



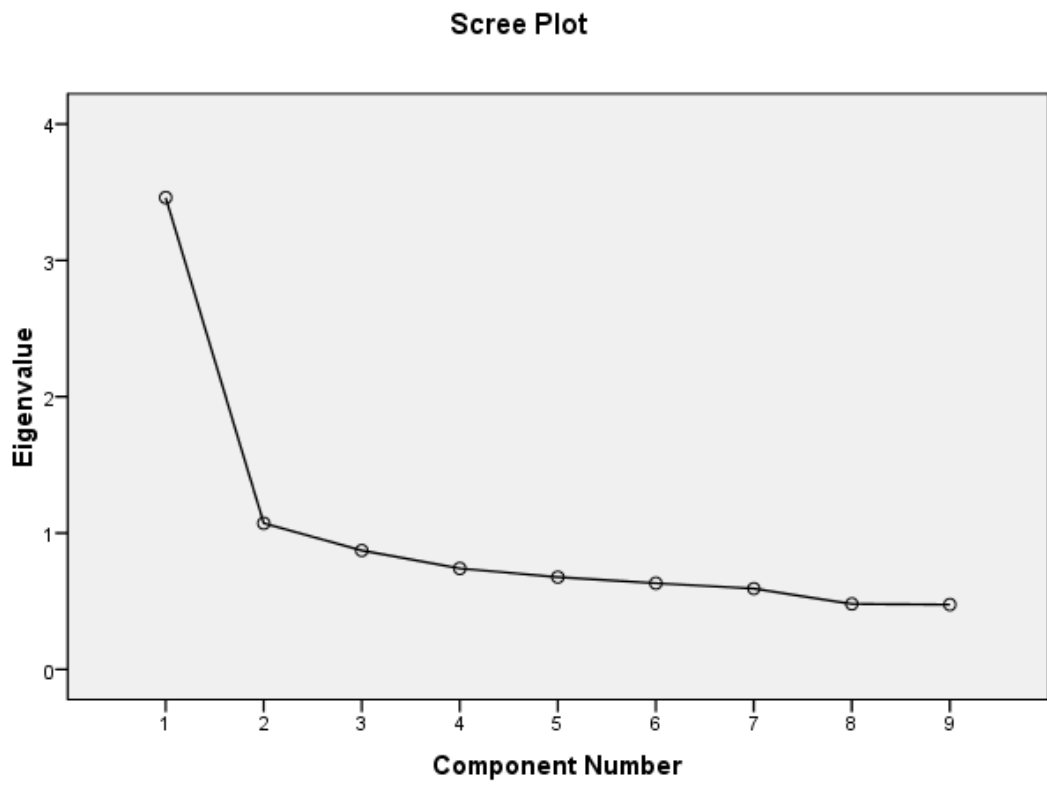
Qst 6 Push motivation Scree Plot



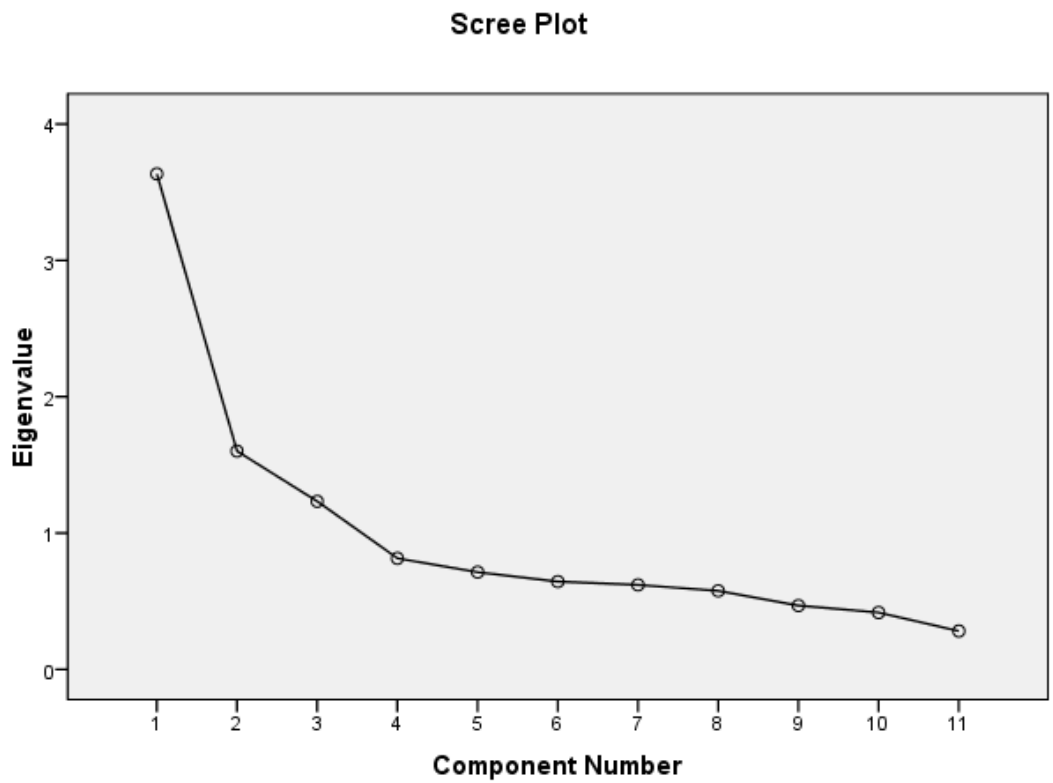
Qst 7 Activities Scree Plot



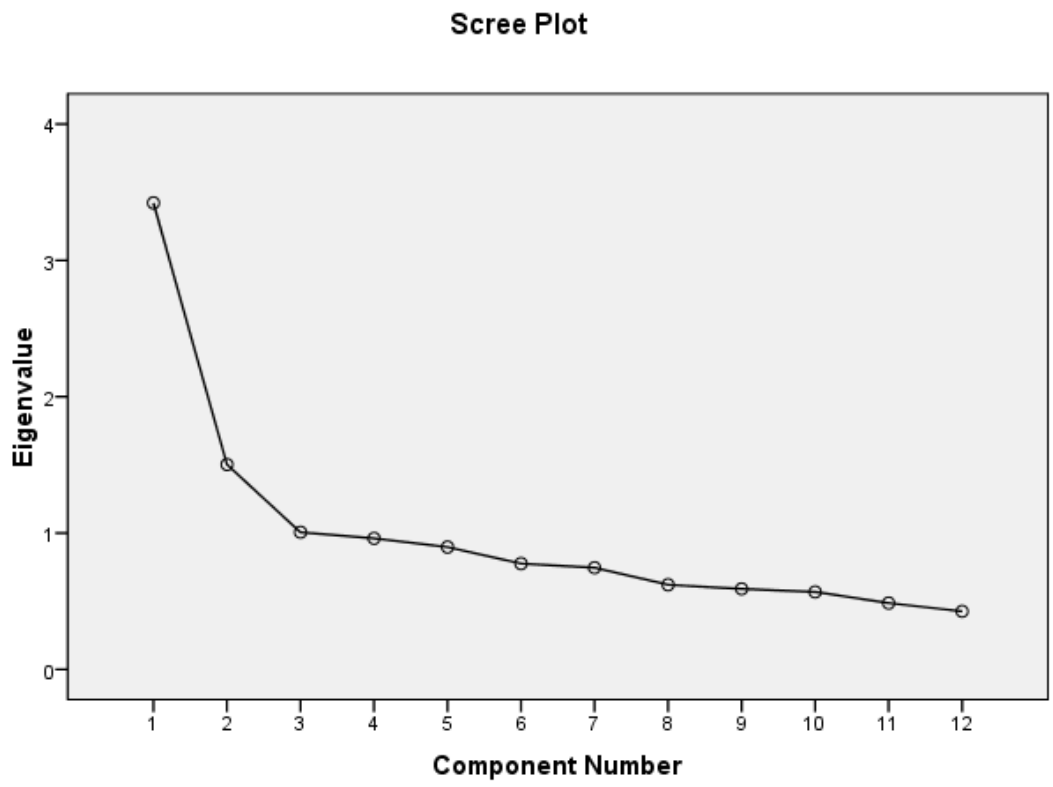
Qst 12 Holiday Constraints Scree Plot



Qst 31 Life Focus over the next five to ten years Scree Plot



Qst 32 Character Type Scree Plot



Appendix I

Hierarchical Cluster analysis for three, five, six and seven Solutions

Cluster Means - 3 Cluster Solution			
	1	2	3
Physical Activities	-.44493	-.00503	.70907
Indulging Entertainment Activities	.05907	-.43168	.53502
Cultural Activities	-.33845	.02390	.58447
Family Orientated Activities	.03271	-.37136	.35992
Educational Attributes	-.49237	.12056	.69691
Rest Relaxation Attributes	-.13303	-.53394	.94055
Location Attributes	.29741	-.64113	.42387
Physical Attributes	-.31428	-.11210	.83653
Fear Constraints	-.30498	.22567	.13086
Time Constraints	.30633	-.59818	.22975
Educating Spiritualist	-.34826	-.20840	.85671
Family Focused	.24962	-.44022	.29390
Luxurious Wanderer	-.22349	.16832	.20206
Trendy Liberalist	-.28382	-.01907	.43862
Independent Youth	-.38695	.17286	.39778
Traditionalist	.31421	-.76868	.45850

Final Cluster Centers - 5 Cluster Solution					
	1	2	3	4	5
Physical Activities	1.32937	-.14156	-.14384	-.52697	-.00276
Indulging Entertainment Activities	.63631	.50031	.09595	.11520	-.59939
Cultural Activities	.56523	.20574	-.91922	.53463	.16271
Family Orientated Activities	.49723	-.05077	-.15047	.18091	-.36698
Educational Attributes	.84264	.04506	-.79892	.21636	.22951
Rest Relaxation Attributes	1.42250	.43454	.07469	-.33932	-.54692
Location Attributes	.61411	.25809	.39574	.09023	-.84948
Physical Attributes	1.04106	.17543	-.70926	.37768	-.04702
Fear Constraints	-.26778	3.65036	-.20377	-.35603	.14009
Time Constraints	.05199	2.18111	-.02586	.19447	-.58378
Educating Spiritualist	1.03343	.17122	-.39733	.00237	-.15428
Family Focused	.15456	.15093	.15436	.32948	-.52430
Luxurious Wanderer	.07951	.15138	-.08576	-.05123	.12758
Trendy Liberalist	.79832	.22409	-.20634	-.20194	-.06980
Independent Youth	.51939	-.16801	-.44833	-.07112	.30224
Traditionalist	.32686	.45913	-.02929	.54882	-.85398

Final Cluster Centers - 6 Cluster Solution						
	1	2	3	4	5	6
Physical Activities	-.45590	-.14156	-.01603	-.25030	.92663	1.05808
Indulging Entertainment Activities	.01669	.50031	-.78711	.38820	.69686	.36653
Cultural Activities	-.53844	.20574	.21454	.10177	1.00095	-.22466
Family Orientated Activities	.12925	-.05077	-.24804	-.40145	.55058	.27738
Educational Attributes	-.65397	.04506	.22263	.07053	1.06226	.21049
Rest Relaxation Attributes	-.07963	.43454	-.57515	-.29858	1.03178	1.18490
Location Attributes	.28201	.25809	-.85560	.18895	.72287	.17623
Physical Attributes	-.45316	.17543	.07109	-.06438	1.16707	.42960
Fear Constraints	-.37554	3.65036	.12233	-.15467	-.33663	-.03006
Time Constraints	.15595	2.18111	-.49336	-.11692	.26782	-.33172
Educating Spiritualist	-.45938	.17122	-.14424	-.04901	.46288	1.54298
Family Focused	.29037	.15093	-.37174	-.06054	.37759	-.04330
Luxurious Wanderer	-.34362	.15138	-.06958	.50996	-.10644	.47204
Trendy Liberalist	-.42034	.22409	-.14848	.13732	-.00732	1.42951
Independent Youth	-.37856	-.16801	.31817	-.10489	-.01568	.71502
Traditionalist	.28522	.45913	-.86109	.05521	.40295	.52152

Final Cluster Centers -7 Cluster Solution							
	1	2	3	4	5	6	7
Physical Activities	-.01328	-.14156	.05494	-.60746	-.48149	2.01864	-.10664
Indulging Entertain.	.16502	.50031	-.80654	.48702	-.60198	.74896	.38323
Cultural	-1.01270	.20574	.12015	.53832	.09842	.52216	.00640
Family Orientated	-.45230	-.05077	-.36627	-.09671	.54313	.70871	.11612
Educational Attributes	-.99147	.04506	.19409	.44145	-.34517	.89042	.23297
Rest Relaxation Attributes	.02898	.43454	-.64036	-.09052	-.31356	1.52211	.20548
Location Attributes	.47735	.25809	-1.05638	.24416	-.00591	.54248	.26098
Physical Attributes	-.98025	.17543	-.08453	.49451	.00805	1.23279	.16127
Fear Constraints	-.20926	3.65036	.13065	-.27049	-.58434	-.32596	.14444
Time Constraints	-.01432	2.18111	-.46935	.15587	.39139	.25689	-.76278
Educating Spiritualist	-.48702	.17122	-.23038	-.25677	-.10216	1.23945	.54130
Family Focused	.16606	.15093	-.64776	.11335	.24338	.19810	.35876
Luxurious Wanderer	.04644	.15138	.03461	.23338	-.91254	-.08952	.60124
Trendy Liberalist	-.21573	.22409	-.09643	-.03936	-.47177	.62507	.37110
Independ. Youth	-.42202	-.16801	.28902	-.17893	-.37113	.41817	.47801
Traditional	-.04307	.45913	-.88630	.55525	.24361	.19536	-.00261

Agglomeration Schedule within groups						
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
475	2	3	36.168	462	411	483
476	1	55	36.673	472	448	478
477	4	33	36.688	474	466	479
478	1	47	37.780	476	471	480
479	4	20	38.434	477	457	481
480	1	54	38.930	478	460	482
481	4	43	40.062	479	473	484
482	1	219	40.926	480	463	484
483	2	5	41.364	475	470	485
484	1	4	42.133	482	481	485
485	1	2	44.000	484	483	0

Agglomeration Schedule Centroid						
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
475	39	90	43.161	0	0	476
476	1	39	34.417	474	475	477
477	1	5	43.672	476	0	479
478	37	232	44.961	0	0	479
479	1	37	44.341	477	478	480
480	1	243	44.795	479	0	481
481	1	178	46.576	480	0	482
482	1	33	46.673	481	0	483
483	1	10	48.726	482	0	484
484	1	381	52.926	483	0	485
485	1	16	59.268	484	0	0

Agglomeration Schedule Wards						
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
475	2	208	7925.517	472	426	484
476	1	209	8062.651	473	471	478
477	23	43	8203.362	469	452	480
478	1	29	8367.689	476	468	482
479	47	75	8547.020	450	474	483
480	23	25	8763.240	477	467	481
481	6	23	9016.471	466	480	482
482	1	6	9283.940	478	481	483
483	1	47	9649.146	482	479	485
484	2	37	10039.756	475	447	485
485	1	2	10670.000	483	484	0

Agglomeration Schedule Median						
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
475	1	194	26.489	474	0	476
476	1	60	31.147	475	430	477
477	1	10	33.347	476	469	478
478	1	127	33.597	477	0	479
479	1	35	28.886	478	471	480
480	1	16	38.280	479	0	481
481	1	37	34.736	480	0	482
482	1	27	32.706	481	0	483
483	1	259	38.150	482	0	484
484	1	376	55.989	483	0	485
485	1	178	48.717	484	0	0

Appendix J

Means of Standardised Cluster Variables for three, five, six and seven Solutions

Cluster Means - 3 Cluster Solution			
	1	2	3
Physical Activities	1.31716	-.45171	.10153
Indulging Entertainment Activities	.63602	.19209	-.52717
Cultural Activities	.64189	.26793	-.63607
Family Orientated Activities	.58411	-.18769	.02729
Educational Attributes	.87350	.11815	-.51939
Rest Relaxation Attributes	1.35178	-.37642	-.01824
Location Attributes	.60628	.01989	-.27325
Physical Attributes	1.02589	.11853	-.58160
Fear Constraints	-.06419	-.02853	.06604
Time Constraints	.30180	.26218	-.49038
Educating Spiritualist	1.08552	-.24326	-.09753
Family Focused	.16290	.18169	-.32112
Luxurious Wanderer	.11234	.11366	-.20511
Trendy Liberalist	.81918	-.15717	-.11070
Independent Youth	.41564	-.08182	-.05324
Traditionalist	.35750	.30809	-.57741

Final Cluster Means- 5 Cluster Solution					
	1	2	3	4	5
Physical Activities	-.12192	.08644	-.42998	1.82056	-.22890
Indulging Entertainment Activities	.49981	-.76347	.31454	.63659	.01186
Cultural Activities	.20449	.16810	.43285	.58336	-.79224
Family Orientated Activities	-.02509	-.33756	.12456	.54902	-.04010
Educational Attributes	.05006	.19302	.34145	.92135	-.81412
Rest Relaxation Attributes	.44924	-.53474	-.11848	1.45756	.00017
Location Attributes	.25276	-.98427	.12400	.65951	.40198
Physical Attributes	.15141	-.10964	.37096	1.13054	-.68677
Fear Constraints	3.82141	.11206	-.09023	-.37513	-.33307
Time Constraints	2.21472	-.42195	-.18117	.36684	.12711
Educating Spiritualist	.19318	-.18756	.14281	1.32066	-.46270
Family Focused	.12893	-.68340	.24899	.29742	.17350
Luxurious Wanderer	.14369	.06028	.24871	-.14188	-.26954
Trendy Liberalist	.25931	-.03714	.06061	.73336	-.30943
Independent Youth	-.15620	.28975	.17039	.35806	-.50343
Traditionalist	.47877	-.90863	.41674	.39502	.10686

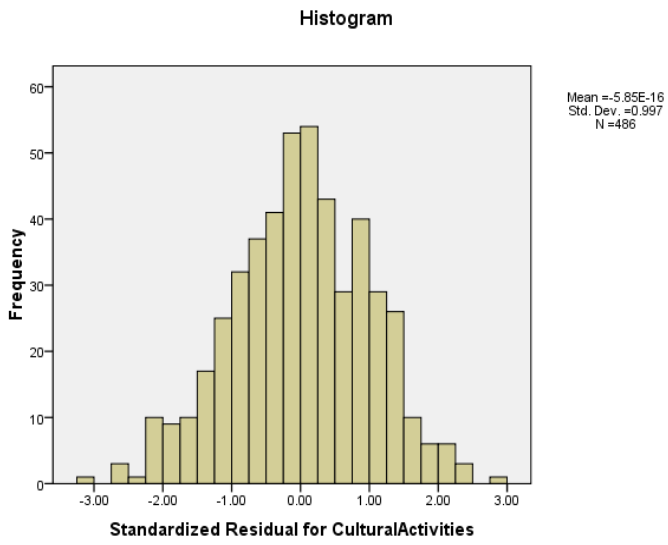
Final Cluster Means - 6 Cluster Solution						
	1	2	3	4	5	6
Physical Activities	-.12192	-.21230	.30796	2.26317	-.39801	-.33519
Indulging Entertainment Activities	.49981	.53838	-.49318	.78589	-.44218	.04728
Cultural Activities	.20449	.19658	-.31150	.75990	.61451	-.78308
Family Orientated Activities	-.02509	.05268	-.37473	.85150	-.10814	.05521
Educational Attributes	.05006	.41289	-.22539	.99452	.39098	-.83135
Rest Relaxation Attributes	.44924	.44796	-.11423	1.46992	-.82136	.02752
Location Attributes	.25276	.46061	-.63592	.64392	-.60837	.43215
Physical Attributes	.15141	.36477	-.46897	1.18863	.36261	-.68383
Fear Constraints	3.82141	-.12103	.18600	-.30809	-.10961	-.36943
Time Constraints	2.21472	-.09896	-.70075	.33361	-.10968	.22234
Educating Spiritualist	.19318	.58417	-.16061	1.09793	-.20458	-.48038
Family Focused	.12893	.25409	-1.13934	.22900	.18808	.29216
Luxurious Wanderer	.14369	.62061	.21558	-.30167	-.23585	-.29176
Trendy Liberalist	.25931	.52868	.23960	.56020	-.39048	-.37038
Independent Youth	-.15620	.19551	.03852	.36855	.25398	-.49783
Traditionalist	.47877	.52871	-1.20015	.34441	.01636	.21380

Final Cluster Means -7 Cluster Solution							
	1	2	3	4	5	6	7
Physical Activities	2.11098	-.46965	.28339	.00948	-.31617	-.12192	1.30278
Indulging Entertain.	.59005	.20452	.04432	-1.29714	.15569	.49981	.80176
Cultural Activities	.76791	.64992	-.39792	.09158	-.73841	.20449	.49987
Family Orientated Activities	.85019	-.02418	-.36859	-.13252	.05668	-.02509	.41453
EducationAt tributes	1.17362	.46692	-.11648	.06126	-.79367	.05006	.75854
Rest Relaxation Attributes	1.38165	-.36808	.13338	-.71944	.07625	.44924	1.49110
Location Attributes	.97570	-.07651	-.14607	-1.19872	.50083	.25276	.49538
Physical Attributes	1.22953	.48119	-.40133	-.07417	-.63688	.15141	.89561
Fear Constraint	-.32064	-.12940	.24930	.01260	-.37429	3.82141	-.40166
Time Constraint	.20175	-.09451	-.79311	-.23663	.24286	2.21472	.30889
Educating Spiritualist	.29323	-.02353	.04258	-.23585	-.36496	.19318	2.04569
Family Focused	.34638	.20765	-.65245	-.47729	.27850	.12893	.20409
Luxurious Wanderer	-.68066	.18087	.59241	-.50909	-.21018	.14369	.52176
Trendy Liberalist	-.26497	-.13533	.54033	-.36576	-.30298	.25931	1.79530
Independ. Youth	-.40920	.24291	.21701	-.01968	-.50532	-.15620	1.27227
Traditional	.21313	.37526	-1.14328	-.59064	.30490	.47877	.71629

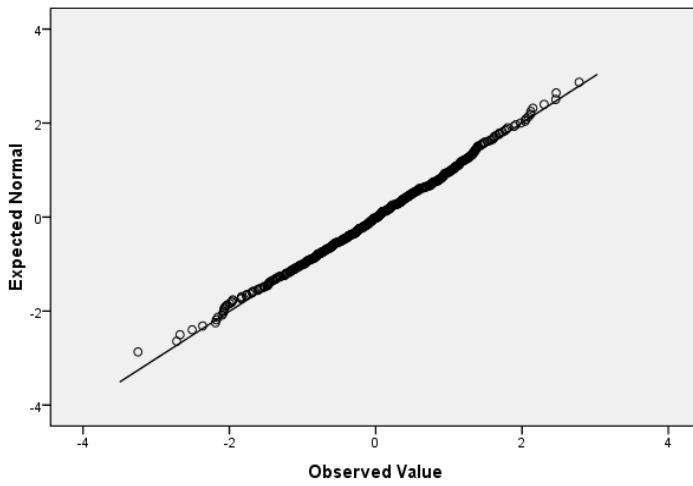
Appendix K

Tests of Normality

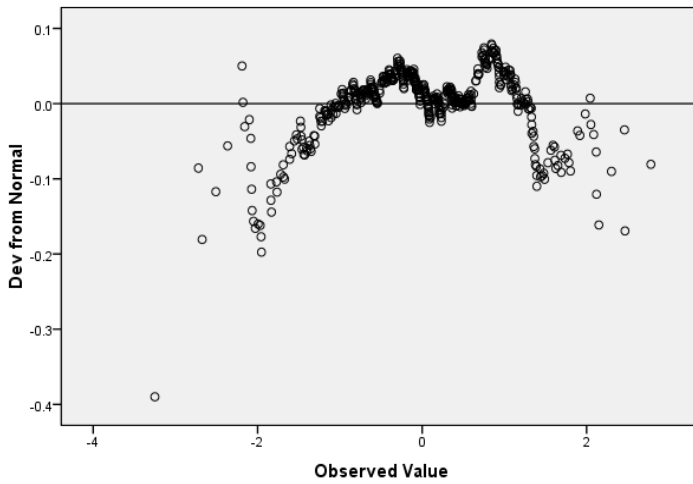
Standardised Residual		Kolmogorov-Smirnov ^a		Shapiro-Wilk	
	Df	Statistic	Sig.	Statistic	Sig.
Cultural Activities	486	.024	.200*	.997	.641
Educating Spiritualist	486	.038	.094	.987	.000
Educational Attributes	486	.057	.001	.993	.025
Family Focused	486	.014	.000	.922	.000
Family Oriented Activities	486	.028	.200*	.997	.525
Fear Constraints	486	.162	.000	.821	.000
Independent Youth	486	.029	.200*	.997	.603
Indulging Entertainment Act	486	.030	.200*	.992	.007
Location Attributes	486	.060	.000	.978	.000
Luxurious Wanderer	486	.035	.200*	.987	.000
Physical Activities	486	.064	.000	.974	.000
Physical Attributes	486	.037	.151	.993	.019
Rest Relaxation Attributes	486	.028	.200*	.995	.139
Time Constraints	486	.085	.000	.983	.000
Traditionalist	486	.042	.037	.992	.010
Trendy Liberalist	486	.044	.026	.994	.048

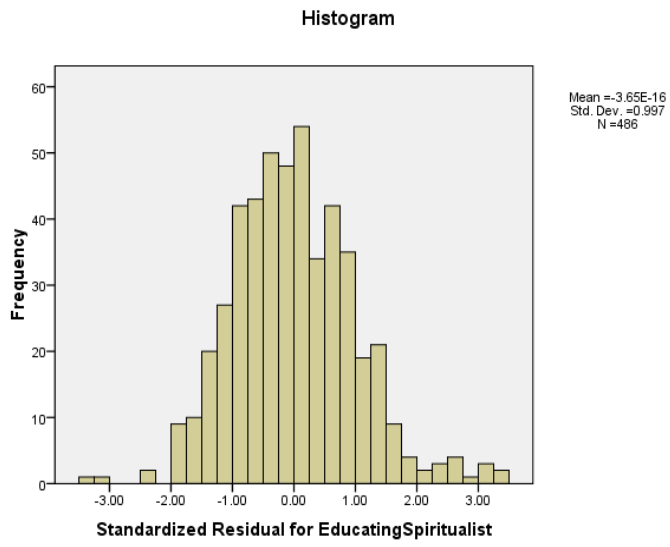


Normal Q-Q Plot of Standardized Residual for CulturalActivities

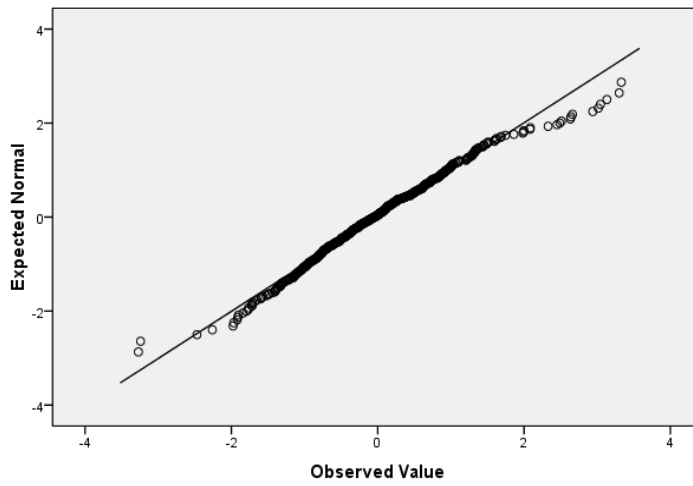


Detrended Normal Q-Q Plot of Standardized Residual for CulturalActivities

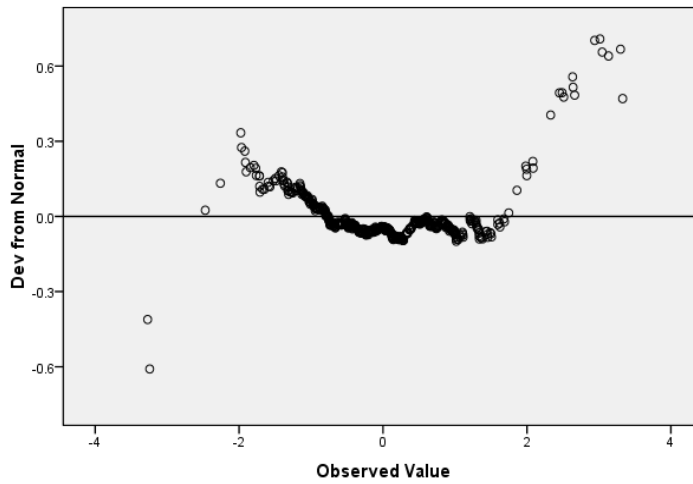


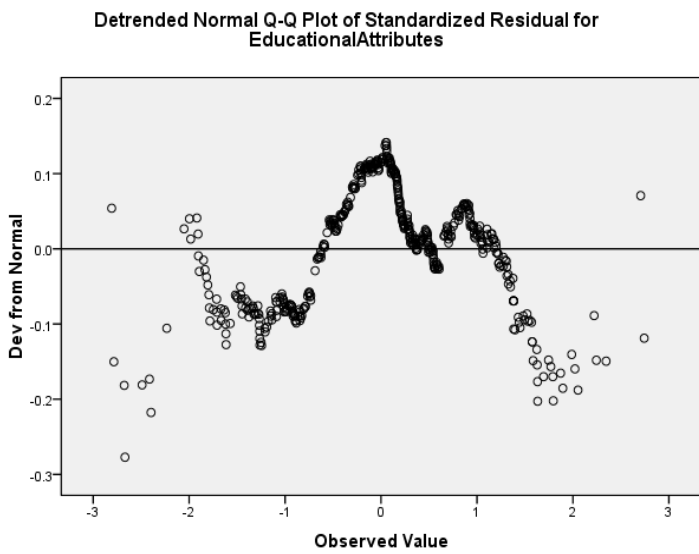
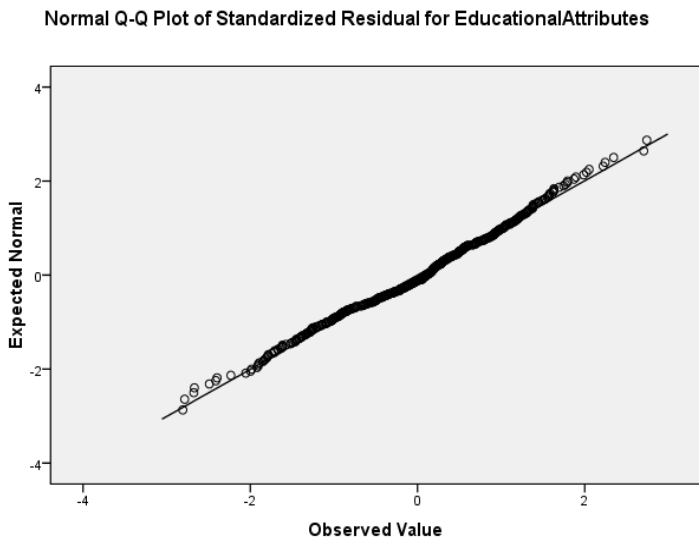
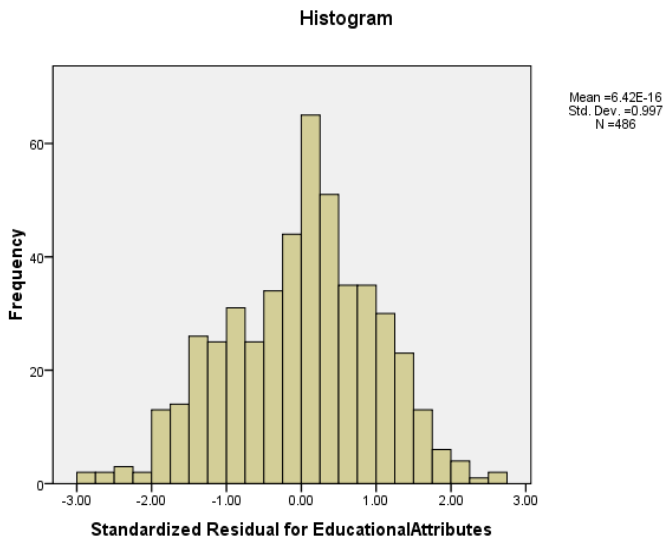


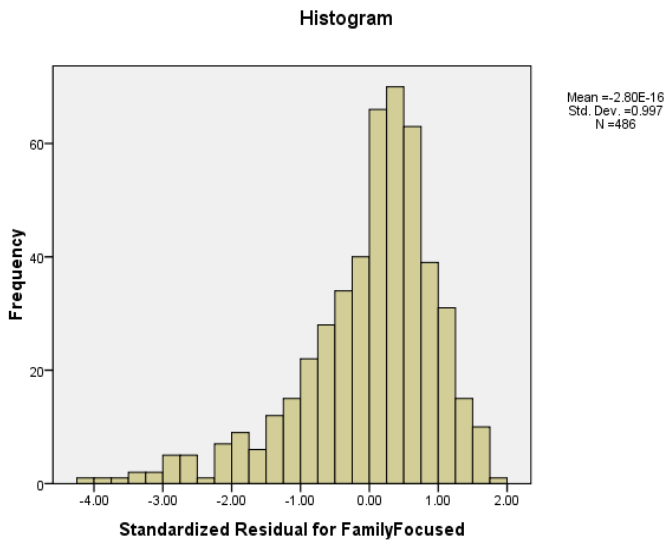
Normal Q-Q Plot of Standardized Residual for EducatingSpiritualist



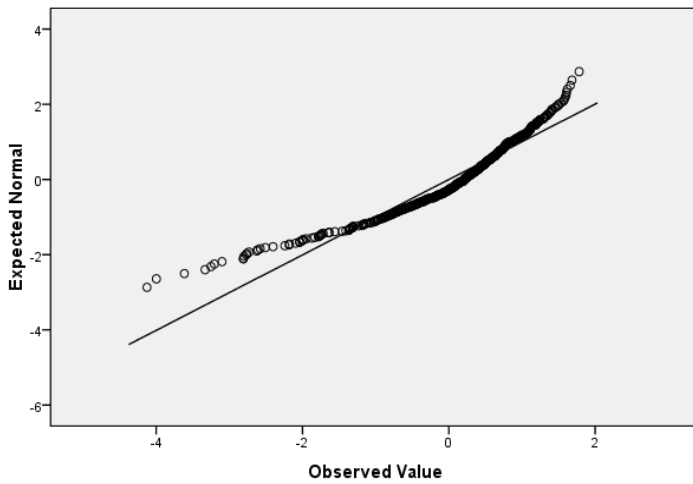
Detrended Normal Q-Q Plot of Standardized Residual for EducatingSpiritualist



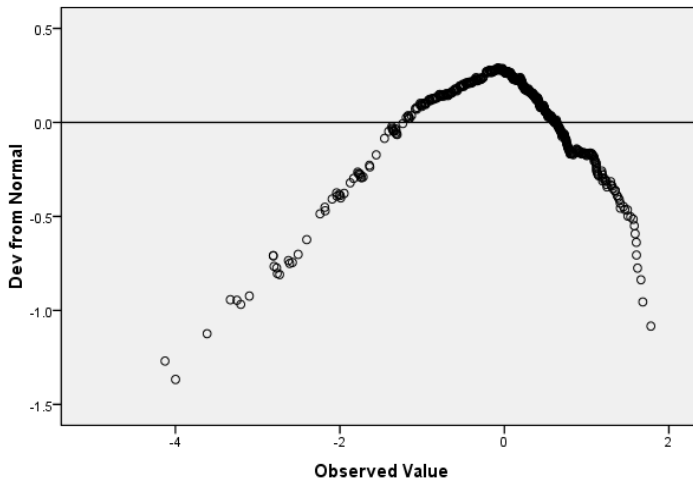


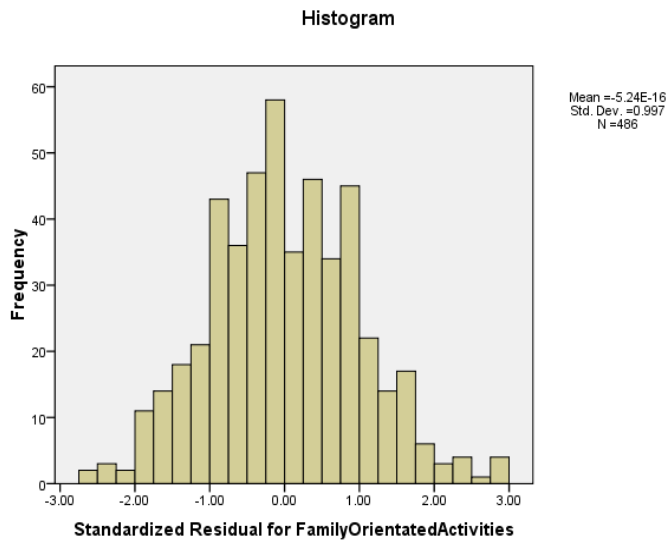


Normal Q-Q Plot of Standardized Residual for FamilyFocused

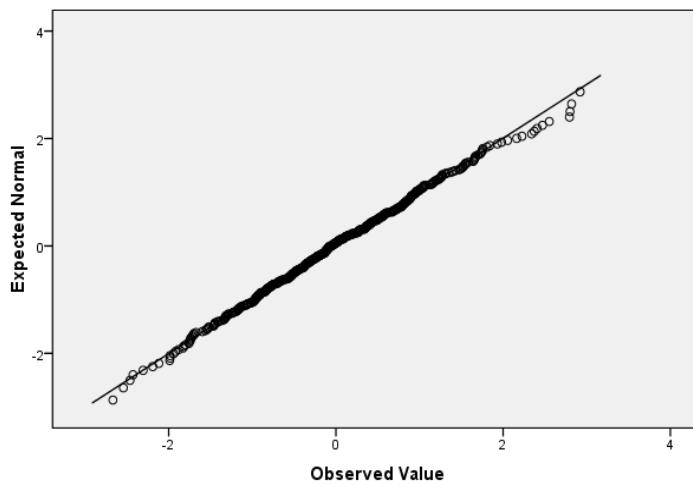


Detrended Normal Q-Q Plot of Standardized Residual for FamilyFocused

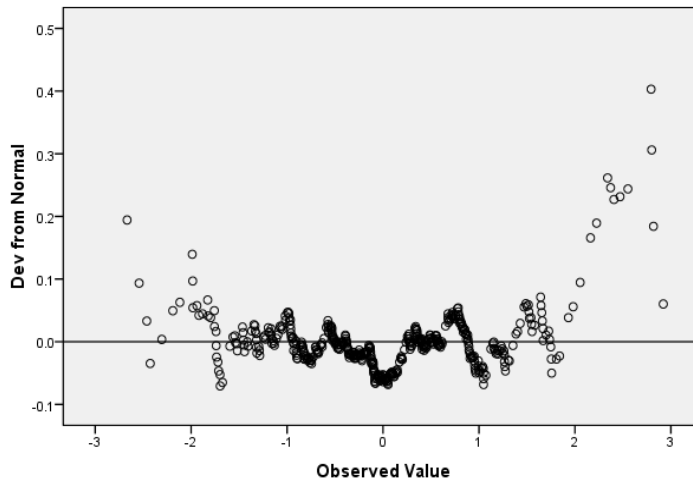


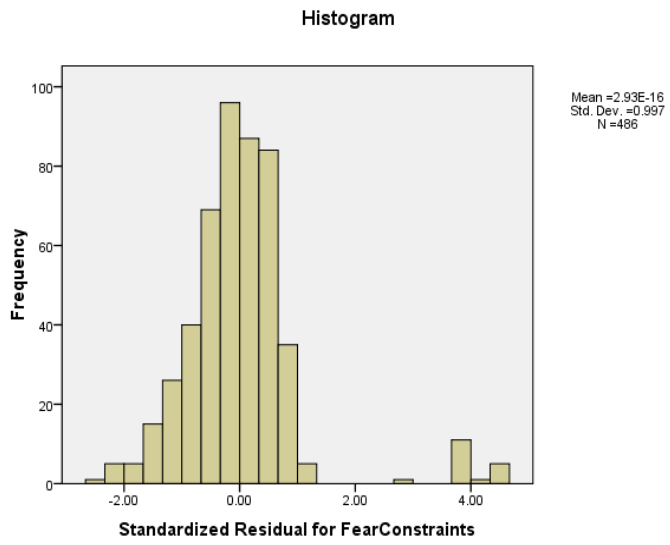


Normal Q-Q Plot of Standardized Residual for FamilyOrientatedActivities

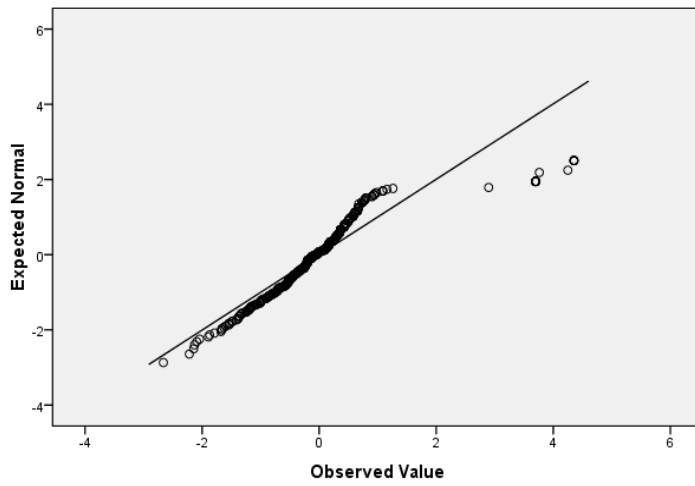


Detrended Normal Q-Q Plot of Standardized Residual for FamilyOrientatedActivities

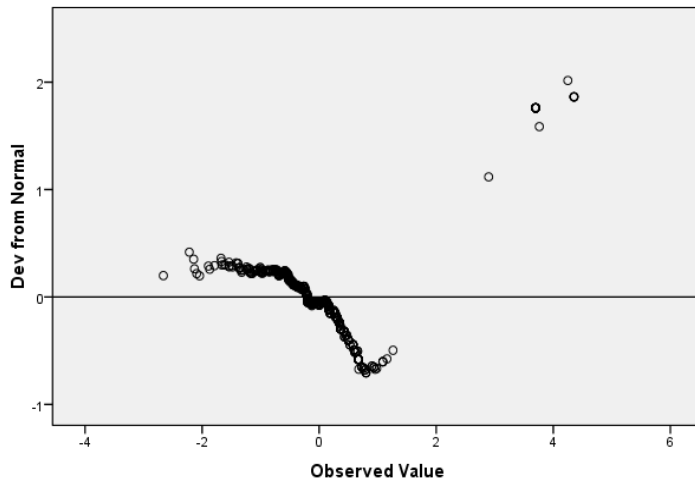


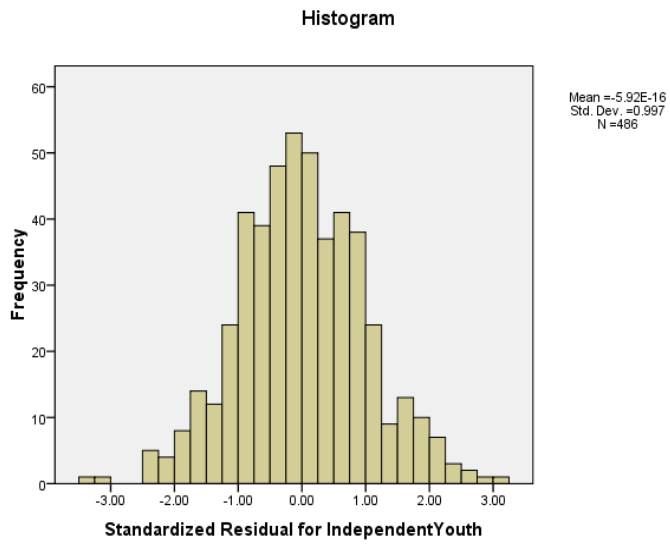


Normal Q-Q Plot of Standardized Residual for FearConstraints

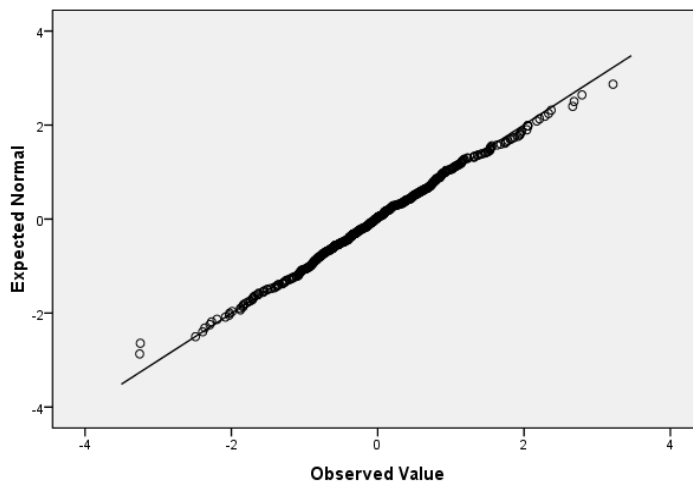


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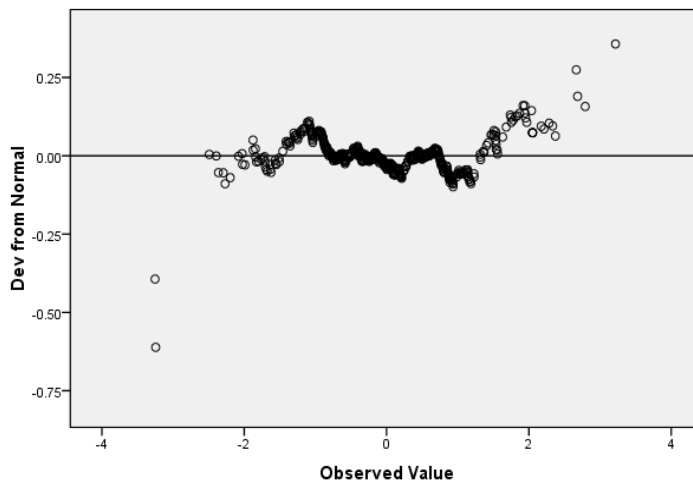


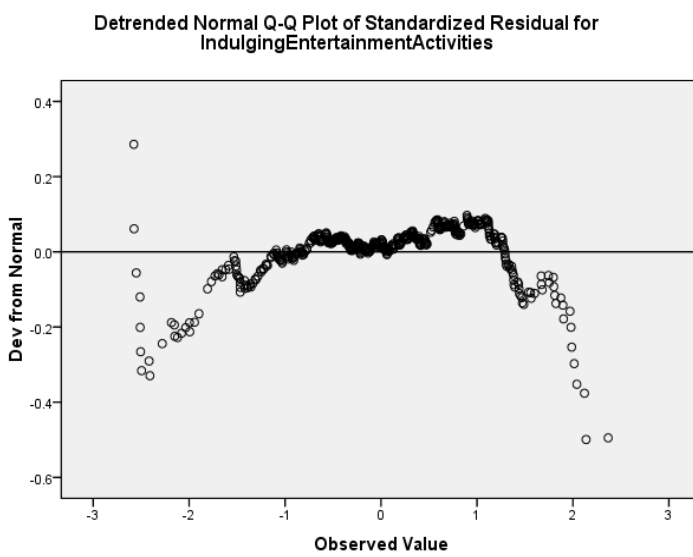
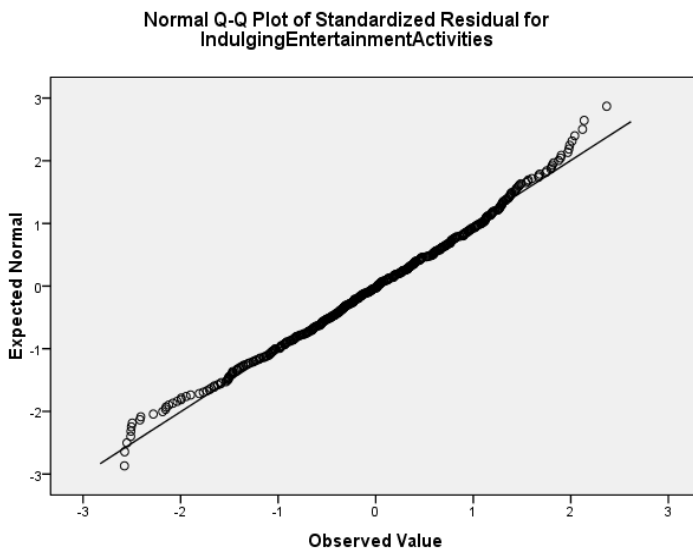
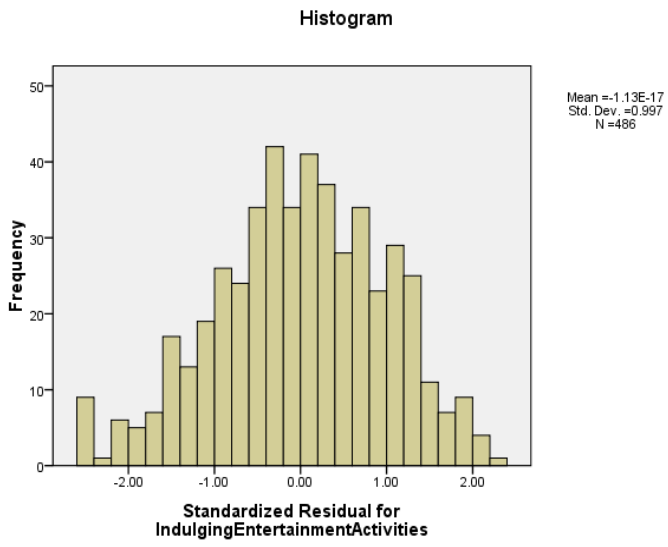


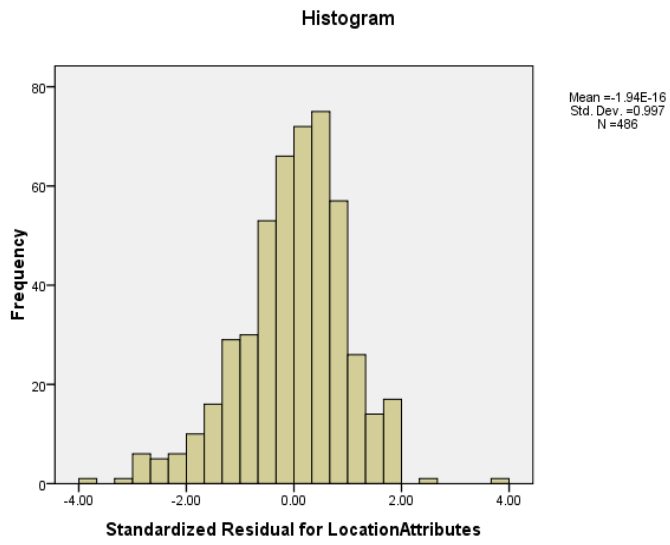
Normal Q-Q Plot of Standardized Residual for IndependentYouth



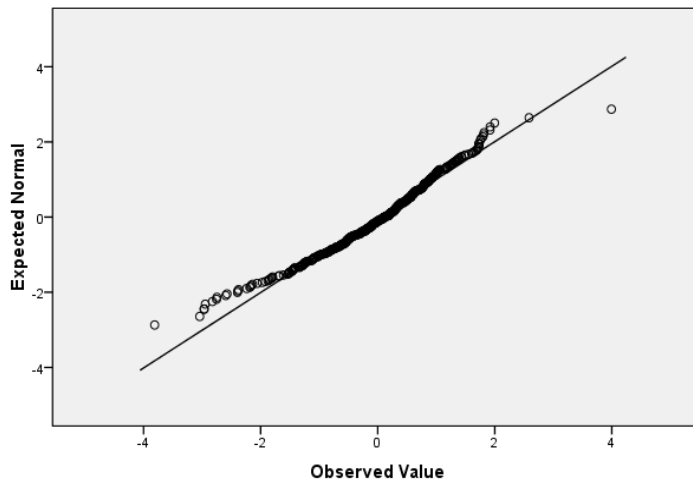
Detrended Normal Q-Q Plot of Standardized Residual for IndependentYouth



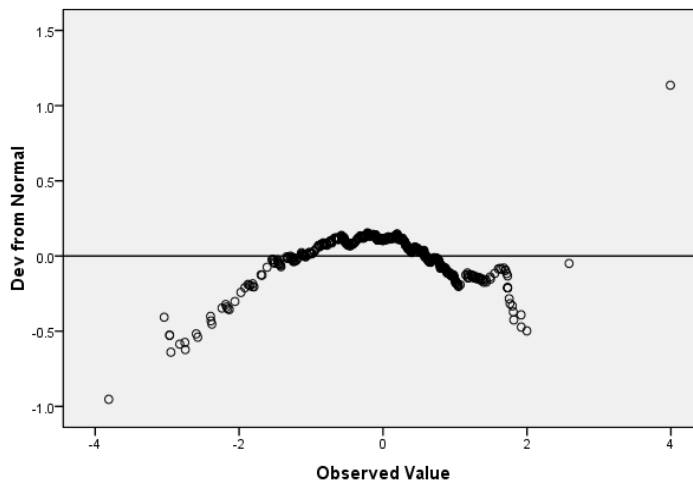


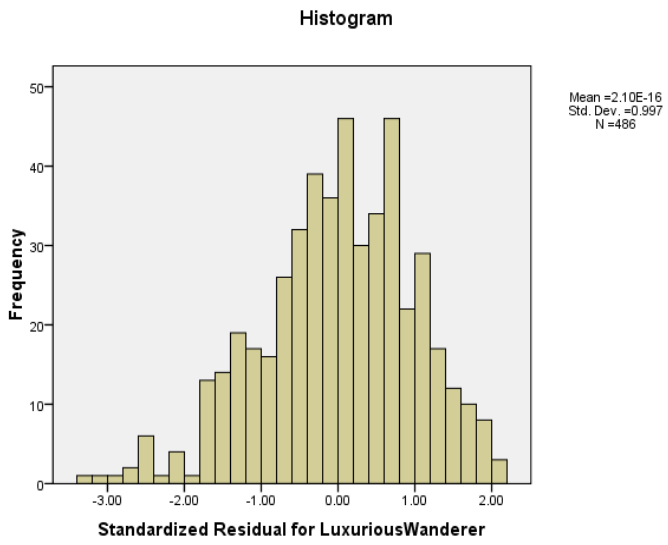


Normal Q-Q Plot of Standardized Residual for LocationAttributes

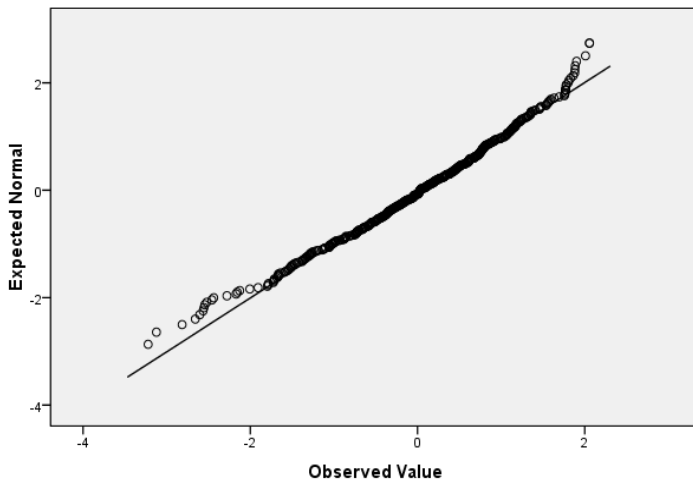


Detrended Normal Q-Q Plot of Standardized Residual for LocationAttributes

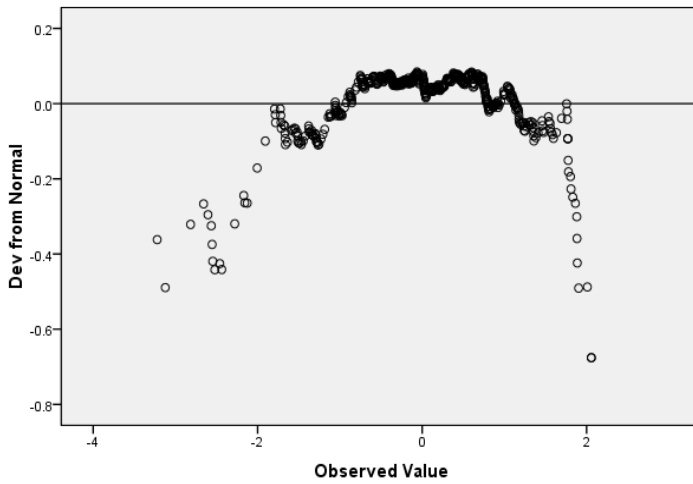


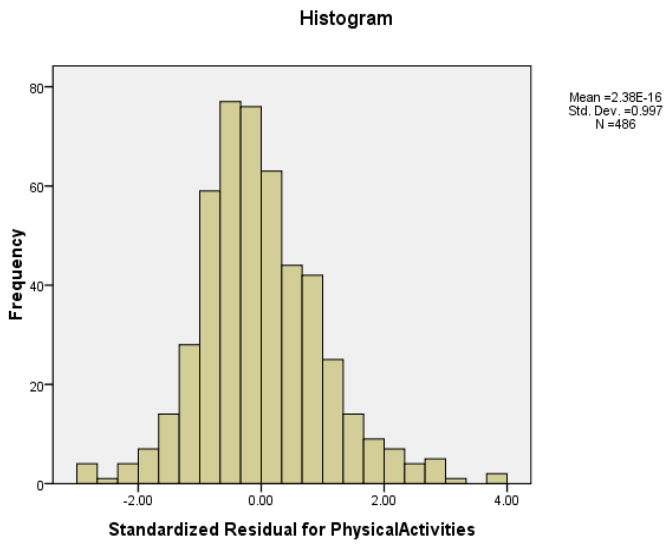


Normal Q-Q Plot of Standardized Residual for LuxuriousWanderer

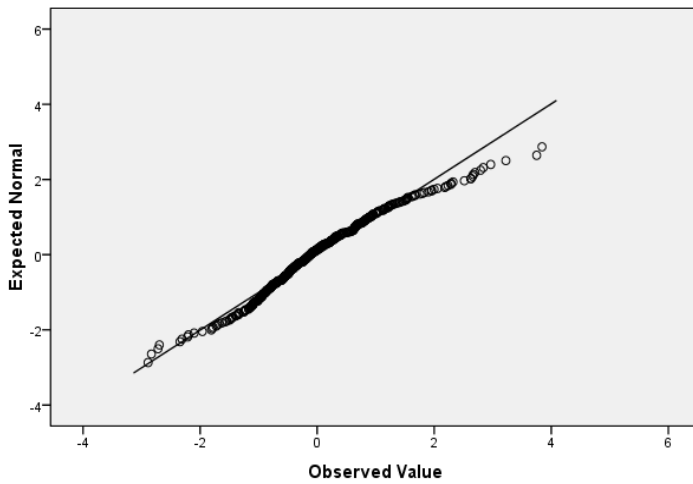


Detrended Normal Q-Q Plot of Standardized Residual for LuxuriousWanderer

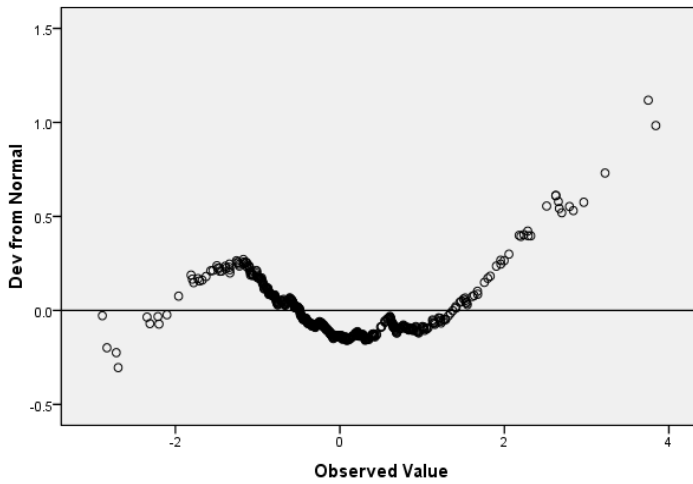


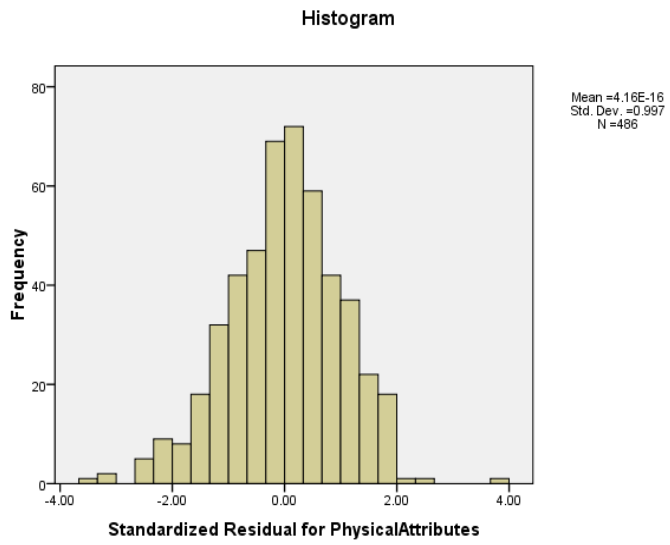


Normal Q-Q Plot of Standardized Residual for PhysicalActivities

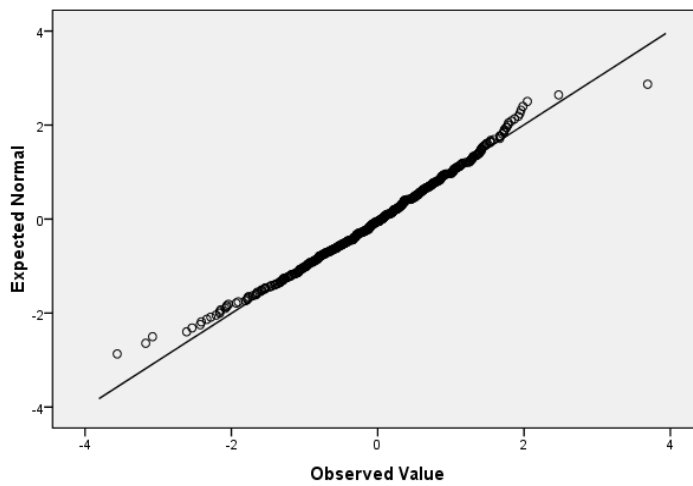


Detrended Normal Q-Q Plot of Standardized Residual for PhysicalActivities

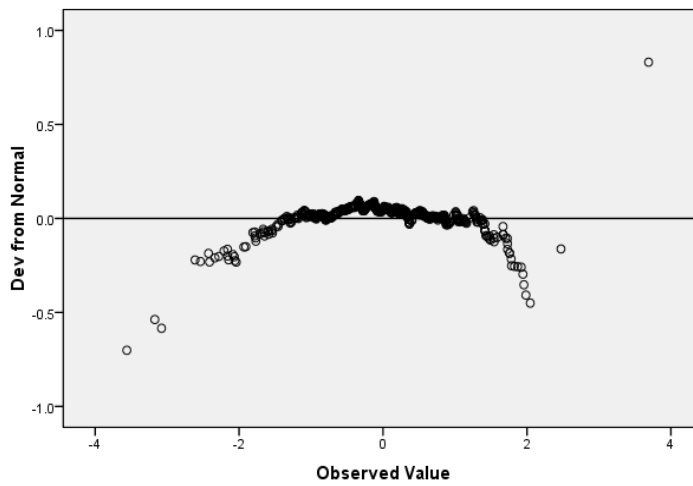


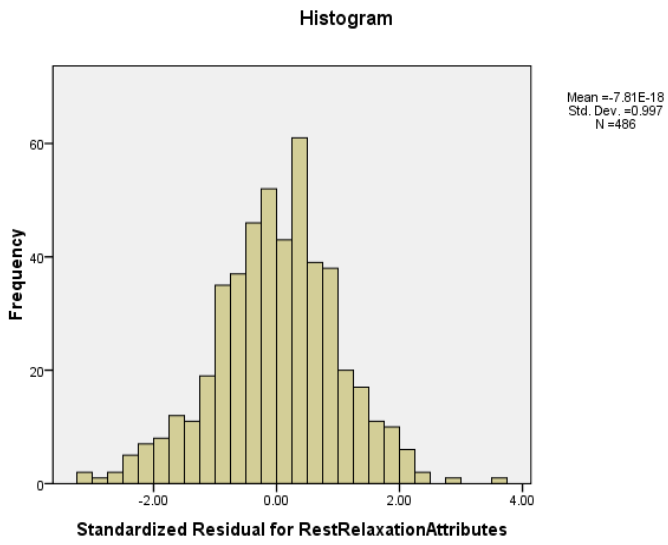


Normal Q-Q Plot of Standardized Residual for PhysicalAttributes

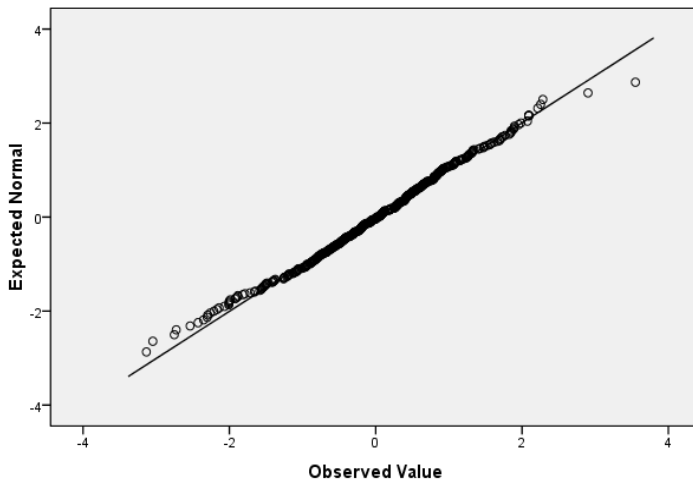


Detrended Normal Q-Q Plot of Standardized Residual for PhysicalAttributes

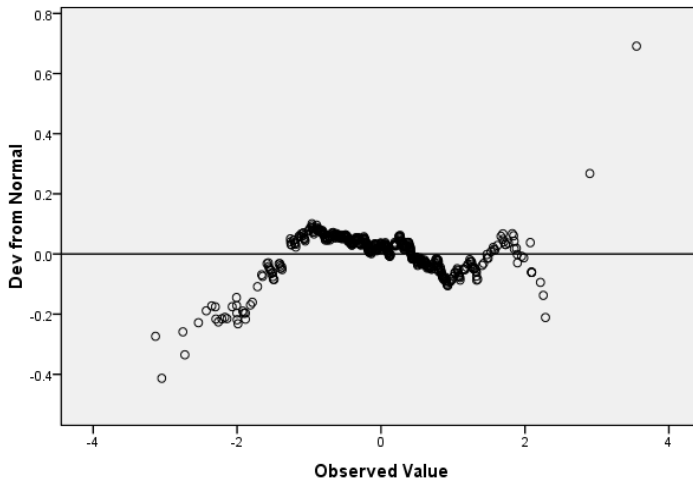


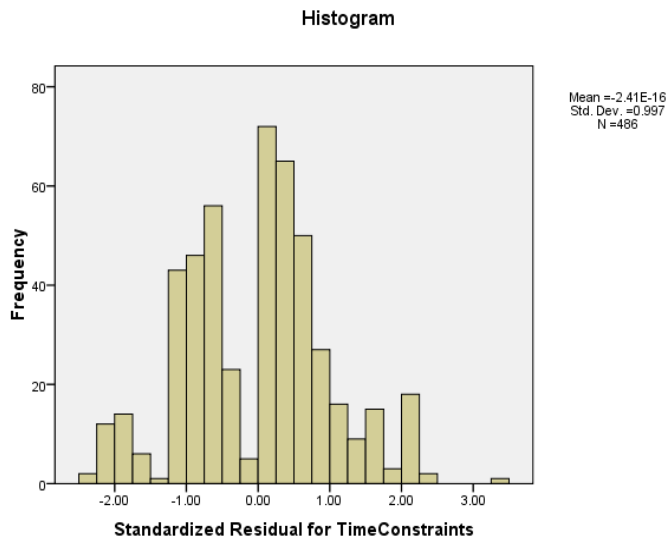


Normal Q-Q Plot of Standardized Residual for RestRelaxationAttributes

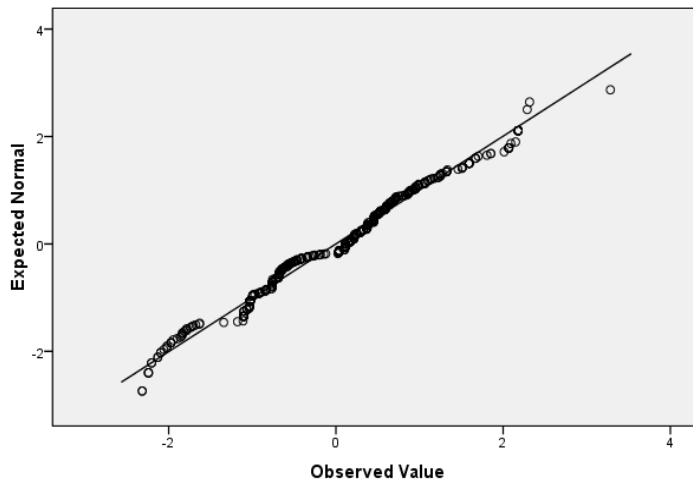


Detrended Normal Q-Q Plot of Standardized Residual for RestRelaxationAttributes

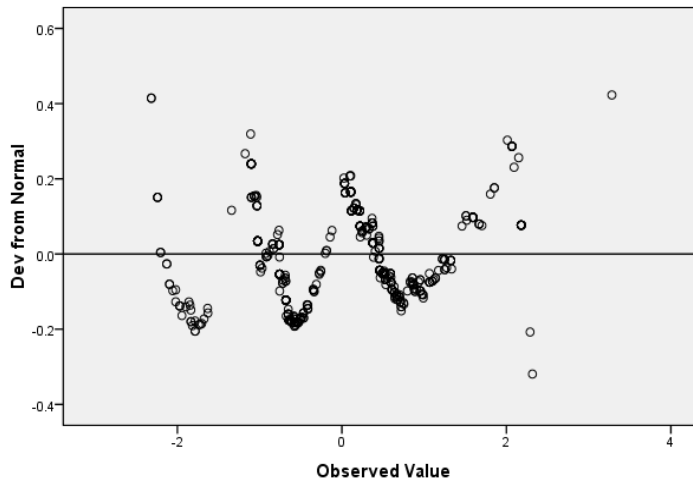


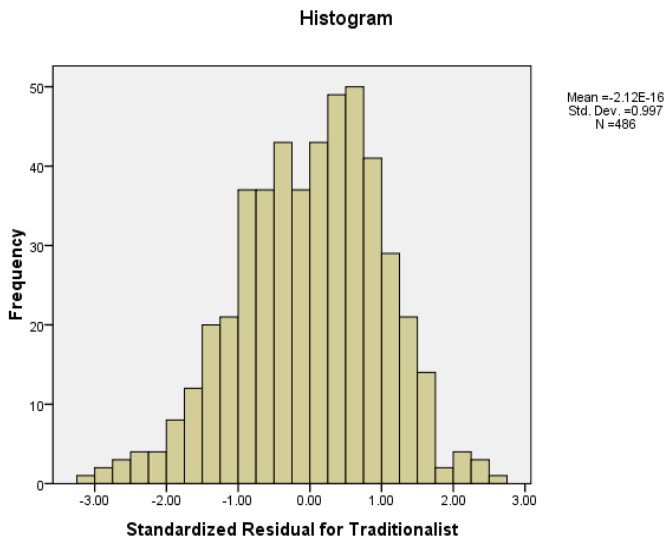


Normal Q-Q Plot of Standardized Residual for TimeConstraints

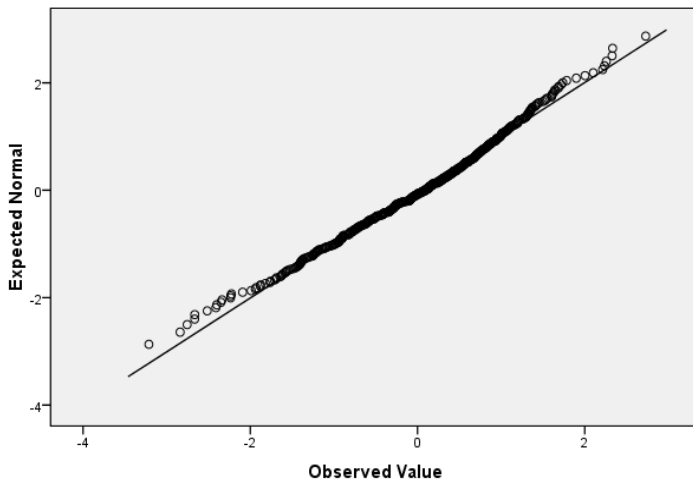


Detrended Normal Q-Q Plot of Standardized Residual for TimeConstraints

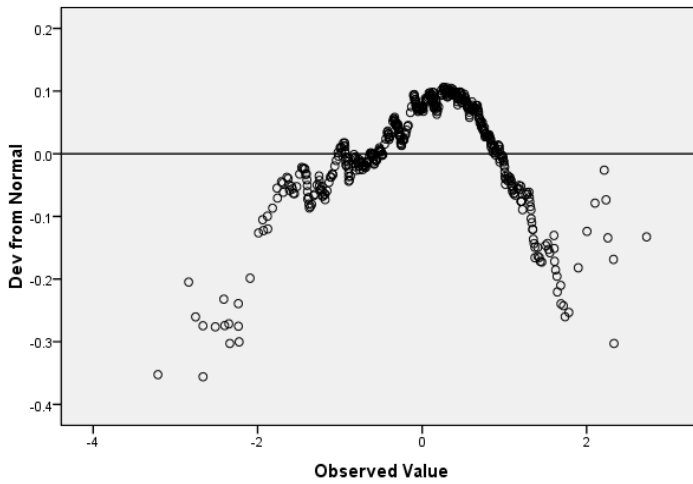


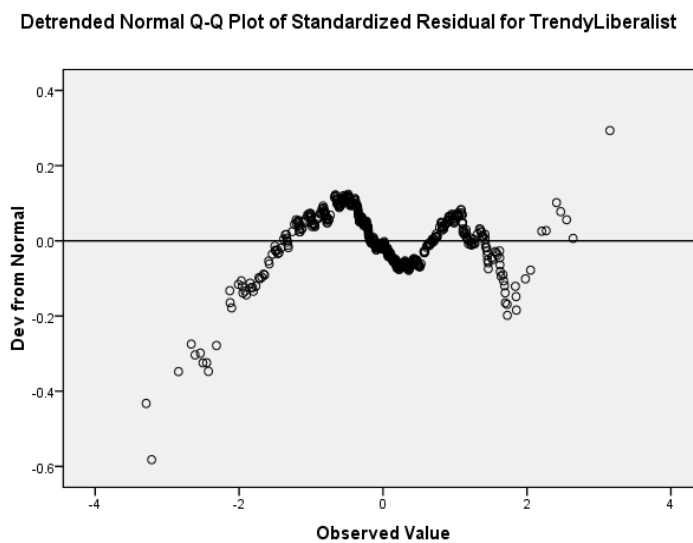
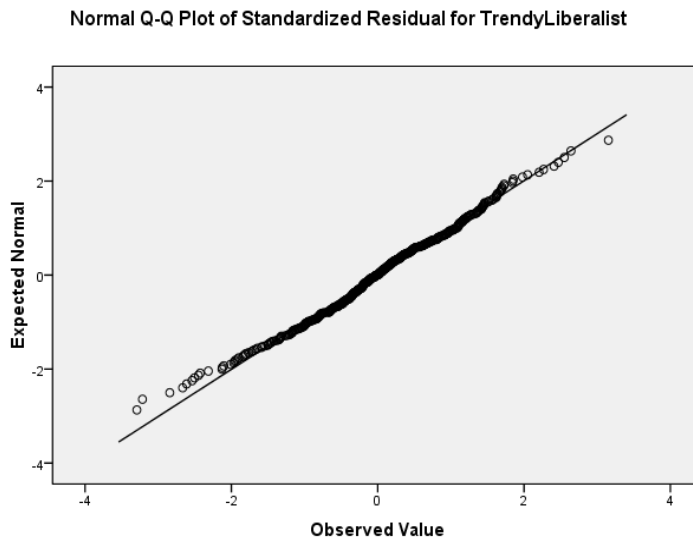
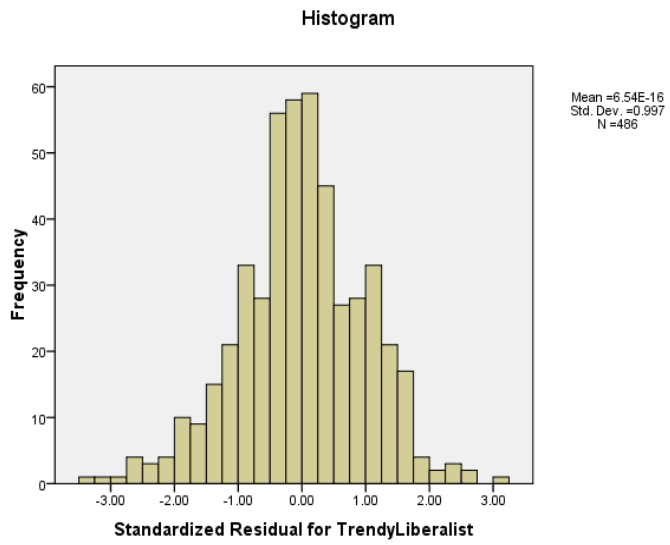


Normal Q-Q Plot of Standardized Residual for Traditionalist



Detrended Normal Q-Q Plot of Standardized Residual for Traditionalist





Appendix L

Post Hoc Tests - Tukey HSD

Multiple Comparisons Cultural Activities						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	.5000376*	.15885538	.009	.0905060	.9095692
	3	-.3694015	.17084522	.135	-.8098432	.0710401
	4	.6611349*	.15642694	.000	.2578639	1.0644060
2	1	-.5000376*	.15885538	.009	-.9095692	-.0905060
	3	-.8694391*	.11976624	.000	-1.1781984	-.5606799
	4	.1610973	.09810836	.356	-.0918275	.4140222
3	1	.3694015	.17084522	.135	-.0710401	.8098432
	2	.8694391*	.11976624	.000	.5606799	1.1781984
	4	1.0305365*	.11652600	.000	.7301307	1.3309423
4	1	-.6611349*	.15642694	.000	-1.0644060	-.2578639
	2	-.1610973	.09810836	.356	-.4140222	.0918275
	3	-1.0305365*	.11652600	.000	-1.3309423	-.7301307

Based on observed means.
 The error term is Mean Square(Error) = .842.
 *. The mean difference is significant at the .05 level.

Homogeneous Subsets - Cultural Activities Tukey HSD^{a,b,c}				
Cluster Number of Case	N	Subset		
		1	2	3
4	190	-.3037027		
2	162	-.1426053		
1	42		.3574323	
3	92			.7268338
Sig.		.655	1.000	1.000

Means for groups in homogeneous subsets are displayed.
 Based on observed means.
 The error term is Mean Square(Error) = .842.
 a. Uses Harmonic Mean Sample Size = 86.740.
 b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
 c. Alpha = .05.

Multiple Comparisons Educating Spiritualist						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.6738213*	.13878813	.000	1.3160233	2.0316192
	3	1.2498680*	.14926337	.000	.8650647	1.6346712
	4	1.9732437*	.13666646	.000	1.6209155	2.3255720
2	1	-1.6738213*	.13878813	.000	-2.0316192	-1.3160233
	3	-.4239533*	.10463689	.000	-.6937089	-.1541978
	4	.2994225*	.08571492	.003	.0784481	.5203969
3	1	-1.2498680*	.14926337	.000	-1.6346712	-.8650647
	2	.4239533*	.10463689	.000	.1541978	.6937089
	4	.7233758*	.10180597	.000	.4609184	.9858331
4	1	-1.9732437*	.13666646	.000	-2.3255720	-1.6209155
	2	-.2994225*	.08571492	.003	-.5203969	-.0784481
	3	-.7233758*	.10180597	.000	-.9858331	-.4609184

Based on observed means.
The error term is Mean Square(Error) = .642.
*. The mean difference is significant at the .05 level.

Homogeneous Subsets Educating Spiritualist Tukey HSD^{a,b,c}				
Cluster Number of Case	N	Subset		
		1	2	3
4	190	-.4232097		
2	162	-.1237873		
3	92		.3001661	
1	42			1.5500340
Sig.		.068	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .642.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons EducationalAttributes Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	.7857417*	.14828973	.000	.4034485	1.1680349
	3	.0465209	.15948211	.991	-.3646265	.4576682
	4	1.2381618*	.14602280	.000	.8617127	1.6146108
2	1	-.7857417*	.14828973	.000	-1.1680349	-.4034485
	3	-.7392208*	.11180046	.000	-1.0274441	-.4509975
	4	.4524201*	.09158306	.000	.2163175	.6885226
3	1	-.0465209	.15948211	.991	-.4576682	.3646265
	2	.7392208*	.11180046	.000	.4509975	1.0274441
	4	1.1916409*	.10877572	.000	.9112154	1.4720664
4	1	-1.2381618*	.14602280	.000	-1.6146108	-.8617127
	2	-.4524201*	.09158306	.000	-.6885226	-.2163175
	3	-1.1916409*	.10877572	.000	-1.4720664	-.9112154

Based on observed means.
The error term is Mean Square(Error) = .733.
*. The mean difference is significant at the .05 level.

EducationalAttributes Tukey HSD^{a,,b,,c}				
Cluster Number of Case	N	Subset		
		1	2	3
4	190	-.4875108		
2	162		-.0350908	
3	92			.7041301
1	42			.7506510
Sig.		1.000	1.000	.984

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .733.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons Family Focused Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I- J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	.6543001*	.15566067	.000	.2530045	1.0555957
	3	-.1766506	.16740939	.717	-.6082346	.2549334
	4	-.0101309	.15328106	1.000	-.4052918	.3850301
2	1	-.6543001*	.15566067	.000	-1.0555957	-.2530045
	3	-.8309507*	.11735765	.000	-1.1335005	-.5284008
	4	-.6644309*	.09613532	.000	-.9122693	-.4165926
3	1	.1766506	.16740939	.717	-.2549334	.6082346
	2	.8309507*	.11735765	.000	.5284008	1.1335005
	4	.1665197	.11418257	.464	-.1278447	.4608842
4	1	.0101309	.15328106	1.000	-.3850301	.4052918
	2	.6644309*	.09613532	.000	.4165926	.9122693
	3	-.1665197	.11418257	.464	-.4608842	.1278447
Based on observed means. The error term is Mean Square(Error) = .808. *. The mean difference is significant at the .05 level.						

Family Focused Tukey HSD^{a,,b,,c}			
Cluster Number of Case	N	Subset	
		1	2
2	162	-.4462880	
1	42		.2080121
4	190		.2181429
3	92		.3846626
Sig.		1.000	.567
Means for groups in homogeneous subsets are displayed. Based on observed means. The error term is Mean Square(Error) = .808. a. Uses Harmonic Mean Sample Size = 86.740. b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed. c. Alpha = .05.			

Multiple Comparisons Family Orientated Activities Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95 per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	.8942910*	.16240339	.000	.4756125	1.3129694
	3	.2617614	.17466103	.439	-.1885175	.7120402
	4	.6704929*	.15992071	.000	.2582148	1.0827710
2	1	-.8942910*	.16240339	.000	-1.3129694	-.4756125
	3	-.6325296*	.12244121	.000	-.9481849	-.3168742
	4	-.2237981	.10029960	.116	-.4823720	.0347758
3	1	-.2617614	.17466103	.439	-.7120402	.1885175
	2	.6325296*	.12244121	.000	.3168742	.9481849
	4	.4087315*	.11912859	.004	.1016161	.7158469
4	1	-.6704929*	.15992071	.000	-1.0827710	-.2582148
	2	.2237981	.10029960	.116	-.0347758	.4823720
	3	-.4087315*	.11912859	.004	-.7158469	-.1016161
Based on observed means. The error term is Mean Square(Error) = .880. * The mean difference is significant at the .05 level.						

Family Orientated Activities Tukey HSD^{a,,b,,c}			
Cluster Number of Case	N	Subset	
		1	2
2	162	-.3107330	
4	190	-.0869349	
3	92		.3217966
1	42		.5835580
Sig.		.396	.257
Means for groups in homogeneous subsets are displayed. Based on observed means. The error term is Mean Square(Error) = .880. a. Uses Harmonic Mean Sample Size = 86.740. b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed. c. Alpha = .05.			

Multiple Comparisons Fear Constraints Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.4498308*	.15987869	.026	-.8620005	-.0376610
	3	-.5089393*	.17194577	.017	-.9522182	-.0656604
	4	.0958946	.15743461	.929	-.3099743	.5017635
2	1	.4498308*	.15987869	.026	.0376610	.8620005
	3	-.0591086	.12053776	.961	-.3698568	.2516396
	4	.5457254*	.09874036	.000	.2911712	.8002795
3	1	.5089393*	.17194577	.017	.0656604	.9522182
	2	.0591086	.12053776	.961	-.2516396	.3698568
	4	.6048339*	.11727664	.000	.3024929	.9071749
4	1	-.0958946	.15743461	.929	-.5017635	.3099743
	2	-.5457254*	.09874036	.000	-.8002795	-.2911712
	3	-.6048339*	.11727664	.000	-.9071749	-.3024929

Based on observed means.
The error term is Mean Square(Error) = .853.
*. The mean difference is significant at the .05 level.

Fear Constraints Tukey HSD^{a,,b,,c}			
Cluster Number of Case	N	Subset	
		1	2
4	190	-.3274707	
1	42	-.2315761	
2	162		.2182546
3	92		.2773632
Sig.		.903	.975

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .853.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons Independent Youth Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	.4997354*	.16255213	.012	.0806735	.9187974
	3	.6346382*	.17482099	.002	.1839470	1.0853295
	4	1.0938338*	.16006718	.000	.6811781	1.5064894
2	1	-.4997354*	.16255213	.012	-.9187974	-.0806735
	3	.1349028	.12255335	.689	-.1810416	.4508472
	4	.5940983*	.10039146	.000	.3352876	.8529091
3	1	-.6346382*	.17482099	.002	-1.0853295	-.1839470
	2	-.1349028	.12255335	.689	-.4508472	.1810416
	4	.4591955*	.11923770	.001	.1517989	.7665922
4	1	-1.0938338*	.16006718	.000	-1.5064894	-.6811781
	2	-.5940983*	.10039146	.000	-.8529091	-.3352876
	3	-.4591955*	.11923770	.001	-.7665922	-.1517989

Based on observed means.
The error term is Mean Square(Error) = .881.
*. The mean difference is significant at the .05 level.

Independent Youth Tukey HSD^{a,b,c}				
Cluster Number of Case	N	Subset		
		1	2	3
4	190	-.3918407		
3	92		.0673548	
2	162		.2022576	
1	42			.7019930
Sig.		1.000	.780	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .881.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons Indulging Entertainment Activities Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.0755081*	.15891888	.000	.6658128	1.4852035
	3	.1980312	.17091352	.653	-.2425865	.6386489
	4	.5076973*	.15648947	.007	.1042650	.9111295
2	1	-1.0755081*	.15891888	.000	-1.4852035	-.6658128
	3	-.8774769*	.11981412	.000	-1.1863596	-.5685942
	4	-.5678108*	.09814758	.000	-.8208368	-.3147849
3	1	-.1980312	.17091352	.653	-.6386489	.2425865
	2	.8774769*	.11981412	.000	.5685942	1.1863596
	4	.3096661*	.11657258	.041	.0091401	.6101920
4	1	-.5076973*	.15648947	.007	-.9111295	-.1042650
	2	.5678108*	.09814758	.000	.3147849	.8208368
	3	-.3096661*	.11657258	.041	-.6101920	-.0091401

Based on observed means.
The error term is Mean Square(Error) = .842.
*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Indulging Entertainment Activities Tukey HSD^{a,b,c}				
Cluster Number of Case	N	Subset		
		1	2	3
2	162	-.4749464		
4	190		.0928645	
3	92		.4025305	.4025305
1	42			.6005617
Sig.		1.000	.119	.487

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .842.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons LocationAttributes Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.0091052*	.15376918	.000	.6126859	1.4055245
	3	.0286261	.16537513	.998	-.3977135	.4549658
	4	.2264743	.15141849	.441	-.1638849	.6168336
2	1	- 1.0091052*	.15376918	.000	-1.4055245	-.6126859
	3	-.9804791*	.11593159	.000	-1.2793525	-.6816057
	4	-.7826309*	.09496715	.000	-1.0274577	-.5378041
3	1	-.0286261	.16537513	.998	-.4549658	.3977135
	2	.9804791*	.11593159	.000	.6816057	1.2793525
	4	.1978482	.11279509	.297	-.0929393	.4886357
4	1	-.2264743	.15141849	.441	-.6168336	.1638849
	2	.7826309*	.09496715	.000	.5378041	1.0274577
	3	-.1978482	.11279509	.297	-.4886357	.0929393

Based on observed means.
The error term is Mean Square(Error) = .789.
*. The mean difference is significant at the .05 level.

Homogeneous Subsets

LocationAttributes Tukey HSD^{a,,b,,c}			
Cluster Number of Case	N	Subset	
		1	2
2	162	-.5681557	
4	190		.2144752
3	92		.4123234
1	42		.4409496
Sig.		1.000	.336

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .789.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons LuxuriousWanderer Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	.1367622	.16959199	.851	-.3004485	.5739730
	3	.2900133	.18239219	.385	-.1801966	.7602232
	4	.4332048*	.16699941	.048	.0026777	.8637319
2	1	-.1367622	.16959199	.851	-.5739730	.3004485
	3	.1532511	.12786092	.628	-.1763763	.4828786
	4	.2964425*	.10473924	.025	.0264231	.5664619
3	1	-.2900133	.18239219	.385	-.7602232	.1801966
	2	-.1532511	.12786092	.628	-.4828786	.1763763
	4	.1431914	.12440168	.658	-.1775180	.4639009
4	1	-.4332048*	.16699941	.048	-.8637319	-.0026777
	2	-.2964425*	.10473924	.025	-.5664619	-.0264231
	3	-.1431914	.12440168	.658	-.4639009	.1775180

Based on observed means.
The error term is Mean Square(Error) = .959.
*. The mean difference is significant at the .05 level.

Homogeneous Subsets

LuxuriousWanderer Tukey HSD^{a,,b,,c}			
Cluster Number of Case	N	Subset	
		1	2
4	190	-.1539383	
3	92	-.0107469	-.0107469
2	162	.1425042	.1425042
1	42		.2792664
Sig.		.192	.209

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .959.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons PhysicalActivities Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.4684523*	.13998298	.000	1.1075740	1.8293306
	3	1.5900151*	.15054840	.000	1.2018990	1.9781312
	4	1.9998854*	.13784304	.000	1.6445239	2.3552469
2	1	-1.4684523*	.13998298	.000	-1.8293306	-1.1075740
	3	.1215628	.10553773	.658	-.1505151	.3936407
	4	.5314331*	.08645285	.000	.3085563	.7543099
3	1	-1.5900151*	.15054840	.000	-1.9781312	-1.2018990
	2	-.1215628	.10553773	.658	-.3936407	.1505151
	4	.4098703*	.10268243	.000	.1451534	.6745872
4	1	-1.9998854*	.13784304	.000	-2.3552469	-1.6445239
	2	-.5314331*	.08645285	.000	-.7543099	-.3085563
	3	-.4098703*	.10268243	.000	-.6745872	-.1451534

Based on observed means.
The error term is Mean Square(Error) = .654.
*. The mean difference is significant at the .05 level.

Homogeneous Subsets

PhysicalActivities Tukey HSD^{a,b,c}				
Cluster Number of Case	N	Subset		
		1	2	3
4	190	-.4509838		
3	92		-.0411135	
2	162		.0804493	
1	42			1.5489016
Sig.		1.000	.755	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .654.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons PhysicalAttributes Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.1561455*	.14724654	.000	.7765416	1.5357493
	3	.1197820	.15836019	.874	-.2884730	.5280371
	4	1.2372341*	.14499557	.000	.8634333	1.6110350
2	1	-1.1561455*	.14724654	.000	-1.5357493	-.7765416
	3	-1.0363634*	.11101396	.000	-1.3225591	-.7501677
	4	.0810887	.09093880	.809	-.1533529	.3155303
3	1	-.1197820	.15836019	.874	-.5280371	.2884730
	2	1.0363634*	.11101396	.000	.7501677	1.3225591
	4	1.1174521*	.10801051	.000	.8389993	1.3959049
4	1	-1.2372341*	.14499557	.000	-1.6110350	-.8634333
	2	-.0810887	.09093880	.809	-.3155303	.1533529
	3	-1.1174521*	.10801051	.000	-1.3959049	-.8389993

Based on observed means.
The error term is Mean Square(Error) = .723.
*. The mean difference is significant at the .05 level.

Homogeneous Subsets

PhysicalAttributes Tukey HSD^{a,b,c}			
Cluster Number of Case	N	Subset	
		1	2
4	190	-.3192286	
2	162	-.2381399	
3	92		.7982235
1	42		.9180055
Sig.		.923	.790

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .723.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons RestRelaxationAttributes Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.8003532*	.14783354	.000	1.4192360	2.1814703
	3	1.1093513*	.15899149	.000	.6994688	1.5192339
	4	1.7260973*	.14557359	.000	1.3508064	2.1013883
2	1	-1.8003532*	.14783354	.000	-2.1814703	- 1.4192360
	3	-.6910019*	.11145652	.000	-.9783385	-.4036652
	4	-.0742558	.09130132	.848	-.3096320	.1611204
3	1	-1.1093513*	.15899149	.000	-1.5192339	-.6994688
	2	.6910019*	.11145652	.000	.4036652	.9783385
	4	.6167460*	.10844109	.000	.3371832	.8963089
4	1	-1.7260973*	.14557359	.000	-2.1013883	- 1.3508064
	2	.0742558	.09130132	.848	-.1611204	.3096320
	3	-.6167460*	.10844109	.000	-.8963089	-.3371832

Based on observed means.
The error term is Mean Square(Error) = .729.
*. The mean difference is significant at the .05 level.

Homogeneous Subsets

RestRelaxationAttributes Tukey HSD^{a,b,c}				
Cluster Number of Case	N	Subset		
		1	2	3
2	162	-.3297019		
4	190	-.2554461		
3	92		.3613000	
1	42			1.4706513
Sig.		.940	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .729.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons TimeConstraints Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	.8674052*	.15101645	.000	.4780825	1.2567280
	3	-.0947464	.16241464	.937	-.5134539	.3239611
	4	-.1927250	.14870784	.566	-.5760961	.1906461
2	1	-.8674052*	.15101645	.000	-1.2567280	-.4780825
	3	-.9621516*	.11385622	.000	-1.2556747	-.6686285
	4	- 1.0601302*	.09326707	.000	-1.3005742	-.8196863
3	1	.0947464	.16241464	.937	-.3239611	.5134539
	2	.9621516*	.11385622	.000	.6686285	1.2556747
	4	-.0979786	.11077587	.813	-.3835605	.1876033
4	1	.1927250	.14870784	.566	-.1906461	.5760961
	2	1.0601302*	.09326707	.000	.8196863	1.3005742
	3	.0979786	.11077587	.813	-.1876033	.3835605

Based on observed means.
The error term is Mean Square(Error) = .761.
*. The mean difference is significant at the .05 level.

Homogeneous Subsets

TimeConstraints Tukey HSD^{a,b,c}			
Cluster Number of Case	N	Subset	
		1	2
2	162	-.6885698	
1	42		.1788354
3	92		.2735818
4	190		.3715604
Sig.		1.000	.466

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .761.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Multiple Comparisons Traditionalist Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.4093403*	.13984112	.000	1.0488277	1.7698529
	3	.2066219	.15039583	.516	-.1811009	.5943447
	4	.2024938	.13770335	.456	-.1525076	.5574952
2	1	-1.4093403*	.13984112	.000	-1.7698529	-1.0488277
	3	-1.2027184*	.10543077	.000	-1.4745206	-.9309162
	4	-1.2068465*	.08636524	.000	-1.4294974	-.9841956
3	1	-.2066219	.15039583	.516	-.5943447	.1811009
	2	1.2027184*	.10543077	.000	.9309162	1.4745206
	4	-.0041281	.10257837	1.000	-.2685768	.2603205
4	1	-.2024938	.13770335	.456	-.5574952	.1525076
	2	1.2068465*	.08636524	.000	.9841956	1.4294974
	3	.0041281	.10257837	1.000	-.2603205	.2685768
Based on observed means. The error term is Mean Square(Error) = .652. *. The mean difference is significant at the .05 level.						

Traditionalist Tukey HSD^{a,,b,,c}			
Cluster Number of Case	N	Subset	
		1	2
2	162	-.8383477	
3	92		.3643706
4	190		.3684988
1	42		.5709926
Sig.		1.000	.333
Means for groups in homogeneous subsets are displayed. Based on observed means. The error term is Mean Square(Error) = .652. a. Uses Harmonic Mean Sample Size = 86.740. b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed. c. Alpha = .05.			

Multiple Comparisons Trendy Liberalist Tukey HSD						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.2865243*	.14498035	.000	.9127627	1.6602859
	3	1.5069325*	.15592296	.000	1.1049607	1.9089043
	4	1.7162149*	.14276402	.000	1.3481670	2.0842627
2	1	-1.2865243*	.14498035	.000	-1.6602859	-.9127627
	3	.2204082	.10930541	.183	-.0613829	.5021992
	4	.4296905*	.08953921	.000	.1988571	.6605240
3	1	-1.5069325*	.15592296	.000	-1.9089043	-1.1049607
	2	-.2204082	.10930541	.183	-.5021992	.0613829
	4	.2092824	.10634818	.202	-.0648849	.4834496
4	1	-1.7162149*	.14276402	.000	-2.0842627	-1.3481670
	2	-.4296905*	.08953921	.000	-.6605240	-.1988571
	3	-.2092824	.10634818	.202	-.4834496	.0648849

Based on observed means.
The error term is Mean Square(Error) = .701.
*. The mean difference is significant at the .05 level.

Trendy Liberalist Tukey HSD^{a,b,c}				
Cluster Number of Case	N	Subset		
		1	2	3
4	190	-.3546967		
3	92	-.1454143	-.1454143	
2	162		.0749939	
1	42			1.3615182
Sig.		.354	.307	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .701.
a. Uses Harmonic Mean Sample Size = 86.740.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Appendix M

Non-Parametric Tests For Fear Constraints

Ranks Kruskal-Wallis Test		
Fear Constraints		
Cluster_4 Cluster Number of Case	N	Mean Rank
1	42	212.04
2	162	314.99
3	92	255.29
4	190	183.79
Total	486	

Fear Constraints Test Statistics^{a,b}	
Chi-Square	79.172
Df	3
Asymp. Sig.	.000
a. Kruskal Wallis Test b. Grouping Variable: Cluster_4 Cluster Number of Case	

Non Parametric Tests -Mann-Whitney Test		
Fear Constraints		
Cluster Number	N	Asymp. Sig. (2-tailed)
1	42	
2	162	
Total	204	.000
1	42	
3	92	
Total	132	.102
1	42	
4	190	
Total	232	.250
2	162	
3	92	
Total	254	.002
2	162	
4	190	
Total	352	.000
3	92	
4	190	
Total	282	.000

1 ≠ 2; 1 = 3; 1 = 4; 2 ≠ 3; 2 ≠ 4; 3 ≠ 4 **Results differ**

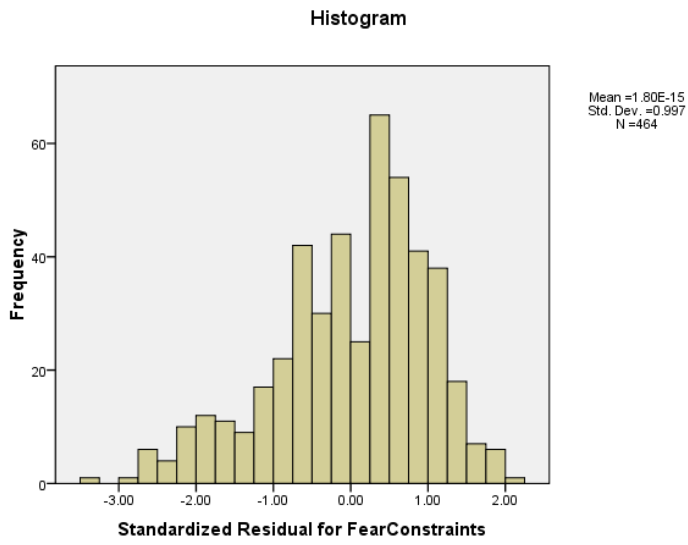
Non Parametric Tests For Fear Constraints contd.

Outliers removed

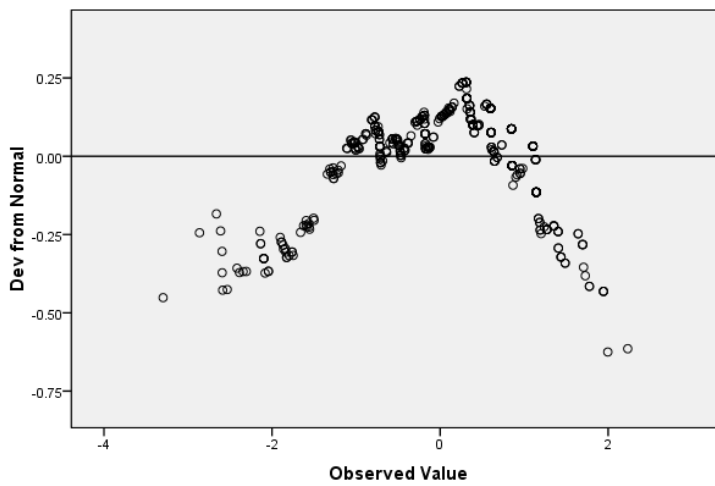
Tests of Normality- outliers removed						
	Kolmogorov-Smirnov^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Fear Constraints	.101	464	.000	.972	464	.000
Outliers removed						

a. Lilliefors Significance Correction

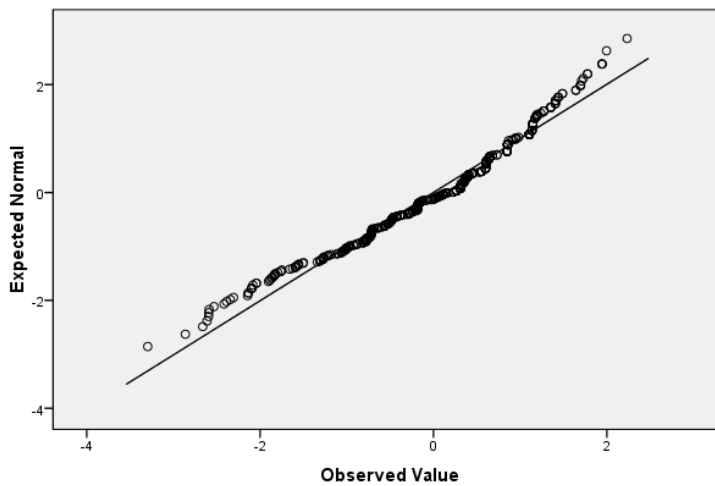
Fear Constraints Case Summary outliers removed					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
464	95.5per cent	22	4.5per cent	486	100.0per cent



Detrended Normal Q-Q Plot of Standardized Residual for FearConstraints



Normal Q-Q Plot of Standardized Residual for FearConstraints



Ranks Kruskal-Wallis Test Fear Constraints		
Cluster Number 4	N	Mean Rank
1	40	206.61
2	161	309.98
3	80	223.86
4	183	173.77
Total	464	

Mann-Whitney Test Fear Constraints		
Cluster Number 4	N	Asymp. Sig. (2-tailed)
1	40	
2	161	
Total	201	.000
1	40	
3	80	
Total	120	.453
1	40	
4	183	
Total	223	.166
2	161	
3	80	
Total	241	.000
2	161	
4	183	
Total	344	.000
3	80	
4	183	
Total	263	.002

1 ≠ 2; 1 = 4; 2 ≠ 3; 2 ≠ 4; 3 ≠ 4, (1 = 3)

Ran analysis of variance again (Tukeys) n =464

Multiple Comparisons Fear Constraints Tukey n=464						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95per cent Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.4768353*	.09896532	.000	-.7320120	-.2216585
	3	-.1229372	.10847848	.669	-.4026431	.1567687
	4	.1329421	.09777433	.525	-.1191637	.3850480
2	1	.4768353*	.09896532	.000	.2216585	.7320120
	3	.3538981*	.07662642	.000	.1563210	.5514752
	4	.6097774*	.06052972	.000	.4537048	.7658500
3	1	.1229372	.10847848	.669	-.1567687	.4026431
	2	-.3538981*	.07662642	.000	-.5514752	-.1563210
	4	.2558793*	.07508190	.004	.0622847	.4494740
4	1	-.1329421	.09777433	.525	-.3850480	.1191637
	2	-.6097774*	.06052972	.000	-.7658500	-.4537048
	3	-.2558793*	.07508190	.004	-.4494740	-.0622847
Based on observed means. The error term is Mean Square(Error) = .314. *. The mean difference is significant at the .05 level.						

1 ≠ 2 = different; 1 = 3; 1 = 4; 2 ≠ 3; 2 ≠ 4; 3 ≠ 4

Clusters 4	Mean	F	Sig.
1	-.2801535		
2	.1966818		
3	-.1572163		
4	-.4130956		
Total	-.1459357	34.726	.000

Appendix N

Factor Score Labels	
Factor Score Value	Description
+2.0 to +3.0	Very Important/strongly agree VI
+1.5 to +1.99	Important/ agree I
+1.00 to +1.49	Moderately Important/ agree MI
+0.11 to +0.99	Neutral
-0.10 to 0.00 to +0.10	Neutral (N)
-0.11 to -0.99	Neutral
-1.00 to -1.49	Moderately Unimportant/ disagree
-1.5 to -1.99	Unimportant/disagree
-2.0 to -3.0	Very Unimportant/disagree

√

N

X

Appendix O

Split file

Number of Cases in each (Split) Cluster		
Cluster	1	75
	2	37
	3	68
	4	63
Total		243

Cross Validation Method – Split File				
Final Cluster Centres				
Cluster Variables	Traditionalists	Active Indulgents	Family Focused Culturists	Family Free Independents
Activities				
Physical Activities	-0.63	1.31	-0.33	0.15
Indulging Entertainment	0.39	0.95	-0.46	-0.31
Cultural Activities	-0.19	0.37	0.65	-0.68
Family Orientated Activities	0.45	-0.58	0.66	-0.10
Motivation: Push				
Educational	-0.26	0.96	0.44	-0.38
Rest Relaxation	0.26	1.47	-0.74	-0.19
Motivation: Pull				
Location Attributes	0.42	0.70	-0.73	0.01
Physical Attributes	0.07	0.64	0.34	-0.79
Constraints				
Fear Constraints	-0.25	-0.30	0.23	0.18
Time Constraints	0.11	0.20	-0.01	-0.41
Life Focus over next 5-10 years				
Educating Spiritualist	-0.15	-0.08	1.02	-0.35
Family Focused	0.32	0.20	-0.22	-0.20
Luxurious Wanderer	0.15	0.36	-0.15	0.21
Character Type				
Trendy Liberalist	-0.15	0.63	-0.28	0.20
Independent Youth	-0.54	0.33	0.37	0.87
Traditionalist	0.65	0.29	-0.25	-0.74

Appendix P


Pearson chi-square significance results

Pearson chi-square significance for socio-demographic characteristics				
Socio-Demographic Variable	Pearson chi-square p value	Degree of freedom (df)	Significance Value	5% Significance (p < 0.05)
Age group	80.24	18	0.000	√
Occupation	130.36	33	0.000	√
Marital Status	34.67	15	0.003	√
Education level	38.61	21	0.011	√
Gender	3.87	6	0.695	X
Income level	20.38	12	0.062	X

Pearson chi-square significance for trip behaviour characteristics				
Behaviour Variable	Pearson chi-square	Degree of freedom (df)	Significance Value p value	5% Significance (p < 0.05).
Typical Vacation	64.32	24	0.385	√
Travel Companion	17.04	9	0.048	√
Travel Party Type	48.57	21	0.001	√
Information	21.90	12	0.039	√
Accommodation	25.50	12	0.018	√
Length of avg hol	35.14	12	0.000	√
Vacation Duration	45.86	12	0.000	√
Spend leisure time	53.18	36	0.032	√
Most n.b activity	32.05	18	0.022	√
Vacation Spend	23.53	15	0.073	√
Usual destination	55.45	39	0.042	X
Usual Season	14.26	19	0.113	X
Trip type	3.78	6	0.707	X
Other country visit	26.29	12	0.010	X

Appendix Q


[Home](#) [Activity Itineraries](#) [Family Free Itineraries with](#) [Family Focused Itineraries](#)




[1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#)

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South of Ireland



North of Ireland



Family Free Independent: South

- **Your Details**
- **Shannon** - Departure
- **Coburn**
 - Allons Cars
 - Delight archery arena
 - Kilmara Estate and gardens
 - Car Hire Bunn
 - Car Hire Bally, Comons
 - Burren Castle and National Heritage
 - Diamond Castle
 - City of Galway
- **Limerick** - Roche Castle
- **Shannon**
 - Malinbeg Park
 - Car Hire Ring of Kerry
 - Lakes of Glenties
 - Dingle



Family Free Independent: North

- **Your Details**
- **Shannon** - Departure
- **Coburn**
 - Historical walk
 - City museum
 - Spanish arch
 - Linnis quarry
 - Child museum
 - County Bay
- **Blaney**
 - Bellefleur - Dingle
 - Cragh Park
 - Downstream Park heavy horse museum
 - Kesh Station
- **Clenny**
 - Cultural and Town museum
 - Classic Cemetery Museum



Pin Chilly



Active and Indulging Tours

Active Indulgers

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South of Ireland



North of Ireland



Activity and Indulging: South

- **Your Choice**
 - **Sublime** - Capers
 - **Elbow** - Clonsilla - Measain Hills
 - **Edinburg** - Casle - Park
 - **The Sun** - Park - National Park
 - **Clonilla** - Irish Music
 - **Lindisfarne** - Surfing
 - **Limerick** - Pin Chilly
- **Clonilla**
 - Eastern Islands
 - Cycling
 - Live Music
 - HI Hiking
- **Edinburg**
 - Children's Spa
 - Lakes of Clonsilla Hills
 - Horse Riding



Activity and Indulging: North

- **Your Choice**
 - **Edinburg** - Capers
 - **Clonsilla**
 - Segway Tour
 - City Walking Tour
 - Chessington Tour
 - Kiting
 - Live Music
 - Hiking and Park Tour
 - Kilmara Athletic Hiking Tour
 - **Clonsilla**
 - Sheep shearing
 - Measain Hills
 - **Edinburg**
 - Lifford Island - Surf and Kayaking
 - Windsurfing
 - Golf Chilly

Family

Activity Packages

Family/Fine Independent

Family Focused Culturalists



High Street



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Choose **YOUR** route from the options provided **OR** **CREATE** your own route



South of Ireland



North of Ireland



Family Focused and Culturalists: South

- **Tour Details**
- **Season** - Dependent
- **Class**
 - Summer
 - Summer Cards and Medieval banquet
 - Christmas Cards
 - All-ages Cards
- **Elmwood Park - Home museum**
- **Slieve Donard**
 - Malinbeg Milling Station and Fox Farm
 - Ring of Kerry
 - Lakes of Glenties
 - Dingle
 - Eastern Islands
- **Cork**
 - Fox Farm
 - The Solihull Pavilion



Family Focused and Culturalists: North

- **Tour Details**
- **Season** - Dependent
- **Class**
 - Historical walk
 - Children's play trail
 - Day museum
 - Lark's quarry
 - Child's museum
 - Coligny Bay
 - Dingle's walking centre
 - Kylemore Abbey and gardens
- **Slieve Donard**
 - Sallins Mill - Slieve Donard
 - Craggy Reefs
 - Donaghadee Park House, British museum
 - Cross Shrine
- **Glenties**