THE ADOPTION OF INTERNET SHOPPING FOR TRAVEL SERVICES

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ABSTRACT

The study explores consumers' adoption of Internet shopping in the context of UK travel services. The key objective is to identify the profile of Internet shoppers and the antecedents of Internet shopping adoption for travel services. The study proposes a model for the prediction of Internet shopping adoption, drawing upon Davis' (1989) Technology Acceptance Model with the inclusion of individual characteristics, perceived risk and trust. The model identifies the structural relationships among the eight constructs (i.e. perceived usefulness, perceived ease-of-use, innovativeness, involvement, opinion leadership, perceived risk, trust and adoption), which were examined through Structural Equation Modelling (SEM) with AMOS. The study employs a multi-methodology approach, which involves focus group discussions at the exploratory stage and a questionnaire survey in the data collection stage. The final survey was of a screened sample of 500 respondents who had purchased travel services online. A total of 299 qualified respondents from all over the UK completed the online survey.

The descriptive results present a profile of travel e-shoppers in terms of demographic, geodemographic and buying patterns. The SEM tested the hypothesised relationships among the constructs, as postulated in the model. Nine of the hypothesised links were supported and six were rejected. Eventually, a robust model that has statistical and explanatory power was confirmed. The results explicitly clarified several key contributions to marketing theory and for the travel and tourism industry. For example, it was demonstrated that perceived usefulness is the key determinant of Internet shopping adoption decisions. Also, consumer innovativeness is the key influence on Internet shopping adoption at the personal level, followed by consumer involvement in the shopping process. The study also reveals three new relationships, between opinion leadership and perceived ease-of-use, consumer involvement and ease-of-use and consumer innovativeness and trust, which have not been examined empirically by previous research. By identifying the primary drivers of Internet shopping adoption for travel services, the study contributes to and extends the understanding of the Internet as a medium for commercial use in the B2C arena as well as expanding the literature on new technology adoption.

Keywords: Internet shopping, Travel services, UK, Consumer behaviour, Technology Acceptance Model, Adoption, Innovativeness, Involvement, Opinion Leadership, Perceived Risk, Trust, Structural Equation Modelling.

DEDICATION

To my parents, Hj. Kamarulzaman Yaakub & Hjh. Janah Ahmad,
who have waited so long for this. Your endless love, encouragement and prayers
have made it possible for me to reach this point.

To my brothers, Zam, Edy & Ery.
Even though we are separated by so many miles, you have always been there for me.

To my beloved husband, Azian.
Your unconditional love, patience and sacrifice have been priceless.

To my lovely, happy, shining, creative daughter, Nina.
You have kept my spirit alive throughout this long journey.

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LIST OF ABBREVIATIONS, TERMS AND DEFINITION

Abbreviations	Terms
AMOS	Analysis of Moment Structures
AVE	Average Variance Extracted
B2B	Business to Business
B2C	Business to Consumer
CFA	Confirmatory Factor Analysis
EFA	Exploratory Factor Analysis
EU	European Union
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IS	Information Systems
IT	Information Technology
MORI	Market and Opinion Research International
PEU	Perceived Ease of Use
PU	Perceived Usefulness
SEM	Structural Equation Modeling
SPSS	Statistics Package for the Social Sciences
TAM	Technology Acceptance Model
WTO	World Tourism Organisation

Abbreviations & Terms	Definition
Adoption/ Consumer adoption*	The stages that consumer go through in the purchase process ranging from awareness to knowledge, evaluation, trial, and adoption.
Consumer innovativeness	A personality trait designed to account for the degree to which a consumer accepts and purchases new products and services.
Consumer involvement	The interest or concern with a product brought about by the situation or context. For example, consumers may become situationally involved with buying a product from the Internet compared to physical store.
Electronic commerce / E-commerce*	Consists primarily of the distributing, buying, selling, marketing, and servicing of products or services over electronic systems such as the Internet and other computer networks.
E-mail (Electronic mail)	A method of composing, sending, and receiving messages over electronic communication systems.
Homepage	The start page or main web page of a website.
HTML (Hyper Text Mark-up Language)	A mark-up language designed for the creation of web pages and other information viewable in a browser.
Internet marketing/ Online marketing/ E-marketing*	The Internet and e-mail based aspects of a marketing campaign which include banner ads, e-mail marketing, search engine optimization, e-commerce and other tools.
Internet retailer/ online retailer/ E-tailer*	Retailers who leverage the efficiency of the Internet to improve a customer's buying experience.

Abbreviations & Terms	Definition
Internet shopper/ Online shopper/ E-shopper*	Consumers who use the Internet from product information searching, booking and making actual purchases by conducting transaction online.
Internet shopping / Online shopping / E-shopping*	Any activities prior to making a purchase from information related search to the actual process of purchasing.
Internet survey / Online survey / E- survey*	Questionnaires that can either be distributed as e-mail messages or posted as www forms on the Internet.
Internet tourism/ Online tourism/ E-tourism*	Internet marketing in the field of travel and tourism.
IP (Internet Protocol)	A data-oriented protocol used by source and destination hosts for communicating data across a packet-switched inter-network.
Purchase behaviour/ Buying behaviour*	In this context it refers to consumer shopping pattern which includes intensity and frequency of purchase, length of adoption, types of product purchase and purchase location.
Shopping cart	Software used to make a site's product catalogue available for online ordering, whereby visitors may select, view, add/delete, and purchase merchandise.
SMTP (Simple Mail Transfer Protocol)	The standard in practice for email transmission across the Internet.
Tourism / Travel *	In this context travel has a similar definition to tourism, but implies a more purposeful journey.
Travel services / Tourism products*	Any services related to travel and tours such as accommodation (e.g. hotels, bed and breakfast, caravan sites), transports (e.g. flights, trains, ferries, car rental), place of interest (e.g. tickets, sightseeing, entertainment, outdoor activities) etc.
URL (Uniform Resource Locators)	An Internet protocol element consisting a name or address that can be used to refer to a resource. It is a fundamental component of the Web.
Web browser	A software application that allows for the browsing of the Web.
Web features	The selection and coordination of available components to create the layout and structure of a Web page.
Web page	A resource on the Web, usually in HTML/XHTML format and with hypertext links to enable navigation from one page or section to another.
Website/ Site*	A collection of web pages, typically common to a particular domain name or sub-domain on the Web on the Internet.
World Wide Web / WWW / Web*	An information space in which the items of interest, referred to as resources, are identified by global identifiers called URL.

Note:

* The terms used interchangeably in the thesis.

INTRODUCTION

"Market research is like driving along looking in the rear view mirror. You are studying what

has gone."

— *Anita Roddick* —
(Founder and Managing Director, Body Shop International)
— *The Times (19 June 1987)* —

THE THESIS STRUCTURE

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Chapter One
INTRODUCTION

1.0   Introduction to Research Area

This chapter introduces the fundamental elements that form this study. It begins with an introduction of the research scope, which is based on three bodies of knowledge: Internet marketing (also known as 'online marketing' or 'e-marketing'), consumer behaviour and the travel and tourism industry. Next, this chapter presents a brief background of the study, which then links to the research problems and the gaps in current knowledge. Finally, the overall purpose of the study and the specific research objectives are highlighted.

During the last decade, information and communications technology (ICT) has evolved dramatically and has become a part of everyday life for most people in modern society. The development of IT has had a major impact on most industries, especially the travel and tourism industry, one of the largest and fastest growing industries in the world. The travel industry, along with the financial industry, has been one of the largest Internet users in terms of marketing and distributing its services (Lexhagen and Nysveen, 2000).

The development of IT has had a particular impact on the travel business, as it provides unique opportunities for interaction between partners, suppliers and customers, no matter how distant they may be (Buhalis, 2000). The Internet presents a great opportunity for travel marketers to use this medium to sell their products. This has had a major impact on the development of many areas of tourism, such as hotels, airlines and travel agents. Many tourism companies in the UK use the Internet to market and distribute their travel services and this has affected the way consumers interact with the company. Various travel companies such as airlines (e.g. Easy Jet, Ryan Air), hotels (e.g. Travelodge, Holiday Inn) and tourism organisations (e.g. London Tourist Board, Wales Tourist Board) offer the possibility of booking and purchasing their services over the Internet.

On the Internet, travel services such as flights tickets, accommodation and holidays have becoming the most popular online purchases compared to other types of products (National Statistics, 2001). This is a growing trend and many companies want to invest in this kind of service. As a result, the UK has remained the largest online travel market in Europe in 2004, accounting for 37 percent of the European online travel market (Marcussen, 2005). Travel agents used to be the main providers of booking systems, but with the development of ICT, this trend has shifted and booking systems are now directly accessible to the consumers

themselves. Because of this new development and the growth of self-service technologies, the customer has gained greater power and insight into the booking procedure (Inkpen, 1998). Traditional customer behaviour and attitudes have been affected by the new ways of doing business (Bitner et al. 2000); thus, their behaviour is no longer predictable by marketers. **Hence, this research sets out to fill the gaps in the current understanding of the potential of the online travel and tourism market and to illuminate how consumer behaviour is influenced in such a market. This study converges from the backgrounds of tourism marketing, Internet marketing and consumer behaviour, as shown in Figure 1.1.**

Figure 1.1: Convergence of the Study
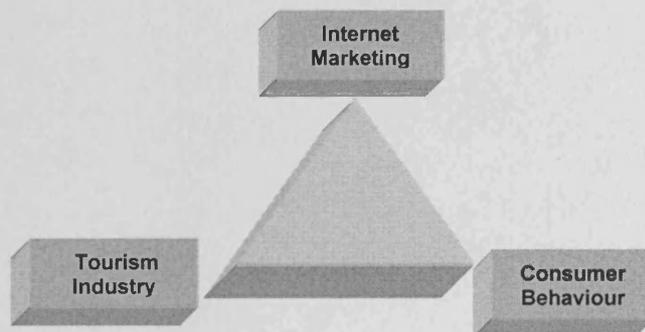
Source: this study

1.1 Background of Research

1.1.1 Internet and Businesses

In recent years, the Internet has captivated considerable attention from retailers as a potentially important marketplace in which marketing activities can be conducted efficiently and economically. The Internet integrates three important types of marketing media - communication, transaction and delivery - through which market functions are carried out (Peterson et al., 1997). As a medium of communication, the Internet reaches a global audience with unlimited information about retailers, products and services (Bruno, 1997); as a transaction medium, the Internet enables orders, invoices and other business documents to be transmitted electronically at high speeds and with low costs, such as payment via credit or debit cards (Hoffman and Novak, 1996); while as a delivery medium, the Internet facilitates the distribution and delivery of products and services without geographical limitations.

The Internet is also ideal for targeting niche markets in which buyers and sellers are small and geographically dispersed, and the products or services are specialized or unique (e.g., antique collectibles) (Quelch and Klein, 1996; Peterson et al., 1997). The Internet gives such retailers international exposure without large investments in advertising as well as allowing retailers to build valuable one-on-one customer relationship (Hazel, 1996; Butler and Peppard, 1998). As a result, today the Internet has become an important channel for companies to provide product information and offer direct sales to their customers (Shang et al., 2005). Regardless of sizes and industries, most businesses have invested in Internet business and tried to establish a net presence.

The growth of online sales in the UK and worldwide has increased remarkably due to this business invention. The UK e-commerce marketplace is undergoing rapid transformation. Many leading high street retailers have gone online, along with major U.S. e-tailers that have exported their concepts to the U.K. Ernst and Young (2000) stated that the UK e-tailing marketplace is still in the early adopter phase; however, the conditions are right for accelerated growth. The current predictions suggest that the rate of growth of Internet sales channels is such that they will account for 15 percent of retail sales by 2010 (Royal Mail, 2004).

1.1.2 Internet Shopping and Consumers

The emergence of Internet marketing does not only benefit retailers but also consumers. It provides many aspects of 'convenience' (i.e. time to shop, place to shop, ease-of-use, information searching and online transactions) to a degree that is not quite available in traditional shopping channels. Researches such as Hoffman et al., (1995), Alba et al., (1997) and Peterson et al., (1997) have discussed several benefits that e-shopping offers to the consumers. The Internet allows consumers to browse products and services, compare prices and conduct a purchase and payment within a few mouse clicks. These conveniences can serve as a key driver of e-shopping adoption. As a result, the Internet is rapidly becoming the fastest growing alternative shopping channel compared to other channels such as telephone or TV shopping. A recent survey by Aqute Research (2004) reveals that 62 percent of online users had bought products from the Internet at least once over the first six months of 2004. As more and more of the UK population are Internet savvy, it is likely that over time, the number of consumers who shop online will increase significantly. As discussed further in Chapters 2 and 3, it is moving from its infancy to a market with significant potential, with millions of people shopping online (Strauss and Frost, 1999; Shim et al., 2001).

The driving force behind the growth of the Internet market is customers' insistence upon convenience, ease-of-use, hassle free service, and quality of information (Connolly and

Olsen, 2001; Ho et al., 2000). Recent socio-demographic changes, such as an increase in families with two working parents, single-parent homes, pressure to free up limited leisure time and the desire for simplicity, a more computer-literate population and cutbacks in store personnel are encouraging more consumers to shop online (see Sheth and Sisodia, 1997; Jarvenpaa and Todd, 1997). Consumers nowadays are comfortable doing things themselves because e-shopping provides them with control and convenience. Through e-shopping, consumers can save time for shopping, have access to online stores 24/7, obtain product information and are able to control the whole shopping process. Other perceived consumer benefits from e-shopping include greater price competition, customisation of products, expanded information on goods and services, a wider choice of products, and increased shopping convenience (Hoffman and Novak, 1996; Jarvenpaa & Todd, 1997a).

1.1.3 The Internet and the Tourism Industry

Among online businesses, travel and tourism appears as one of the largest and fastest growing industries with flights and accommodations as the most popular (31%) of all online purchases (National Statistics, 2001; European Travel Commission, 2005). Apart from accommodation and flights, online travel offerings now include car rentals, vacation packages, cruises, events, tours and attractions. Forrester Research (2001) predicted that the value of the UK travel market had increased from £592m in 2000 to £3.7bn in 2005; this was also supported by Jupiter Research (2004), who predicted that travel sales are expected to increases from €2.2m in 2002 to €7.3m in 2007. This indicates that the Internet is an extremely powerful tool that companies can use to remain competitive and successful in the world of tourism marketing. As described earlier, Internet technology facilitates this growth by offering consumers access to various travel services such as product information, tariffs, availability and online reservation services without contacting travel agents. There was a 54 percent increase in the number of people using the Internet to obtain travel information and make travel arrangements from 1998 to 2001 (Gregory and Breiter, 2001).

1.1.4 Internet Shopping Adoption

Driven by the perceived e-commerce advantage and significant market potential, many retailers have moved to the Internet to explore business opportunities in the virtual marketplace. Despite the significant potential for businesses and marketing in particular, it is not clear whether the growth and development of the Internet market leads to its adoption for shopping. While consumer usage of the Internet for shopping is increasing, fewer people than anticipated actually purchase through the Internet (Pastore, 2000). This can be evidenced from a report by Ernst and Young (2000) on the comparison of worldwide access to personal computers and Internet shopping penetration, which is presented in Table 1.1. The report indicates that Internet penetration growth in most countries did not justify the

adoption of e-shopping strategies. Most households were not conducting online shopping, even though they had Internet facilities at home. The percentage of household who shopped online was between 1 and 17 percent of the online population. This implies that people increasingly use the Internet to obtain company or product information but do not normally use it for purchasing products.

Table 1.1: Personal Computers, Internet and Internet Shopping Penetration Worldwide

Countries	U.S	Canada	Australia	U.K	Italy	France
%households with PCs	53	56	47	41	14	26
%households that are online	34	39	22	29	5	14
%households that have shopped online	17	9	5	10	1	2

Source: Ernst and Young, 2000

This pattern has also been found in many other studies, where about 81 percent of those who browse web sites for goods and services do not actually make an online purchase (Klein, 1998; Westland and Clark, 1999; Shim et al., 2001). Research has also noted that the reasons why people have not completed an online retail transaction include (a) technology problems such as compatibility of software, downloading time and speed, (b) lack of credit card security and privacy protection, (c) unacceptable delivery fees and methods, (d) difficulty in finding specific products, (e) inadequate return policies (f) lack of personal service, (g) inability to use sensory evaluation and (h) unpleasant previous experience (Gupta and Chatrerjee, 1997; Tedeschi, 1999; Shop.org, 2001).

1.1.5 The Research Problems

In trying to understand the reasons for non-completed transactions, many previous studies have used Fishbein's intentional model (Fishbein and Ajzen, 1975) to study how an individual's attitude toward e-shopping will influence his or her behavioural intention (Westland and Clark, 1999; Shim et al., 2001). In the model, attitude has been viewed as a predictor of intention and finally actual behaviour (Fishbein and Ajzen, 1975). However, there is only limited research focused on the actual behaviour of the shopper who actually completes an online transaction (Shim et al, 2001; Lee and Johnson, 2002).

The idea that intentional behaviour will predict actual behaviour is rather questionable, based on the large numbers of dropouts or those who note that they are only browsing while online (Lee and Johnson, 2002). There is also very limited information on how and why certain groups of consumers shop via the Internet while others still accept virtual shopping only reluctantly. Are they using the Internet only to acquire product information? This indicates that empirical evidence of the impact of the Internet on consumer shopping behaviour

remains inconclusive (Jarvenpaa and Todd, 1997). This paradox has resulted in mixed opinions regarding the future of Internet retailing and shopping. Some people are of the view that e-tailing is an over-hyped, transient fad (e.g. Forrester Research, 2000; Holloway and Beatty, 2003), while others maintain that the impact of the Internet for retailing is still promising because it performs a supporting role for existing marketing activity (Rowley, 1996; Reinders and Baker, 1998; Hoffman and Novak, 1996; Jobber, 2004).

Despite the different opinions on the future of e-shopping, there is general agreement that large numbers of consumers will have to buy products and services through this medium in order to make the e-shopping medium profitable (Shang et al., 2005; Smith and Sivakumar, 2004). With respect to the travel industry, to exploit the market potential of this medium, travel retailers who use e-commerce as a distribution channel need a clearer understanding of who actually buys travel services online, what types of travel services they buy and why they buy them online. Such information is extremely important to travel e-tailers, as consumer decision-making with regard to purchasing a travel service involves a complex multi-stage process layered along a hierarchical set of activities (Fesenmaier and Jeng, 2000). Moreover, the decision to use the Internet to shop for travel services will also vary considerably as a result of inherent consumer characteristics. Once this information is available, online retailers can develop a clear strategy to retain existing customers and attract future consumers.

1.1.6 Research Gaps

This research investigates the research problems through a study of the profile of e-shoppers and the antecedents of their adoption of *Internet shopping for travel services* (known as '*travel e-shopping*' hereafter). Specifically, this study identifies the driving factors and concerns that stimulate UK Internet users to adopt travel e-shopping. Understanding consumers' incentives to shop online is critical in the development of an e-marketing strategy and for its long-term success.

To fill the gap, this study identifies the demographic and geodemographic information that makes up the profile of UK e-shoppers for travel services. Drawing from the Technology Acceptance Model (TAM; Davis, 1989), this study investigates the antecedents that this model proposes (i.e. perceived ease-of-use and perceived usefulness) and the individual characteristics (i.e. trust, perceived risk, innovativeness, involvement and opinion leadership) that determine the overall adoption of e-shopping in the context of travel services. The results will facilitate an understanding of the factors associated with the adoption of travel e-shopping, thereby enabling researchers, practitioners and policy makers to better develop appropriate strategies to enhance and promote e-shopping to these user groups.

Borrowing from Rosen's (2000) definition, it is conceptualised that the adoption of Internet shopping refers to any information-related search activities prior to making a purchase and the actual process of purchasing. In essence, the Internet shoppers (know as 'e-shoppers' hereafter) in this study are those who use the Internet both for information seeking, booking and making actual purchases by conducting online transactions.

1.2   Purpose of the Study

The overall purpose of this study is to provide a better understanding of consumer behaviour in adopting Internet for shopping travel services, through an integrated perspective of innovators' characteristics and new technology acceptance variables (TAM). Specifically, this study will propose a conceptual model that will make it possible to better understand the behaviour of e-shoppers and then predict their intention to continue shopping online in the future. This study also aims to identify the profile of current e-shoppers in terms of demographics, geodemographics and usage patterns towards making online travel purchases. **Such understanding will aid e-tailers and web designers to develop an effective business environment that can increase the usage of e-shopping for current e-shoppers while influencing and attracting non-shoppers to buy.**

As most previous work on e-shopping has focused on the intentional behaviour of non-shoppers rather than the actual behaviour of e-shoppers (Shim et al, 2001; Lee and Johnson, 2002), this study intends to fill this gap by providing substantial findings on the Internet shopping behaviour, patterns, experiences, expectations, motivations and satisfaction of actual e-shoppers. Subsequently, this information will provide businesses with a constructional framework for fine-tuning their e-marketing strategies for better profits.

The research purpose suggests the following research objectives:
  i.   **Determine the profile and buying behaviour of e-shoppers for travel services.**
  ii.   **Apply the Technology Acceptance Model (TAM) to examine the antecedents of travel e-shopping adoption.**
  iii. **Derive a number of antecedents from individual consumers that are likely to affect the adoption of travel e-shopping.**
  iv.   **Explore the nature of relationship between each of the antecedents and the adoption of travel e-shopping.**
  v.   **Propose a model of e-shopping adoption for travel services.**
  vi.   **Present suggestions to travel e-tailers in terms of enhancing their online marketing strategies.**

This research will not be only valuable to businesses that are involved with the online travel market, but also to those who are interested in this market. Furthermore, as the literature on Internet tourism marketing is limited, this research will be beneficial to those studying or practising in this area. By understanding and applying the guidelines for effective tourism marketing on the Internet, e-tailers will be better prepared to face the marketing challenges of the future. The detailed contributions of the research will be discussed in Chapter 9.

1.3 Research Rationale

A lot of research has been devoted to understanding consumer behaviour in the new Internet marketing area. Some research has focused on individual factors (e.g. demographics, shopping orientations and innovativeness) that lead individuals to adopt the new medium of shopping (Donthu and Garcia, 1999; Citrin et al., 2000; Blake et al., 2003; Bhatnagar and Ghose, 2004), while other research focuses on the impact of Internet merchant related attributes (e.g. website design, marketing strategies, ease-of-use of websites, online retail store types and service quality) on consumers' e-shopping behaviour (e.g. Liu and Arnett, 2000, Ranganathan and Ganapathy, 2002; Keen et al., 2004; Blake et al., 2005; Mazursky and Vinitzky, 2005). However, there are limited studies based on the area of travel and tourism products and their relationships with e-shopping. A review of the relevant research revealed several gaps that merit further consideration.

Who are the E-shoppers?

First, as e-shopping channels still are in very early stages of development, little is known about consumer profiles and behaviour toward adopting or not adopting these channels and the factors that influence consumers' attitudes to them (Eastlick & Lotz 1999; Rowley, 2000; Amit & Zott 2001; Han & Han 2001, Venkatesh & Brown 2001; Parsons 2002). This presents a big challenge to marketers seeking to serve a unique marketplace that is obviously different from the traditional ways of analysing buying behaviour (Zellweger, 1997). Marketers need to gain new knowledge and understanding about how consumers behave online. **Thus it is vital for marketers to identify the profile of current e-shoppers and their purchasing patterns. Information about who the early adopters are, their demographic and geodemographic backgrounds and individual characteristics towards e-shopping would be valuable to web marketers in developing and deploying effective Internet marketing strategies for existing and potential e-shoppers.**

What makes consumers shop on the Internet?

Second, while Internet purchasing is growing in the UK, there are still plenty of consumers who are connected to the Internet but are not buying online. It is reported by the Office of National Statistic (2005) that over half (55%) of households in Great Britain (13.1 million) had

access to the Internet from home in May 2005; however, only 58 percent of adults in these households had bought or ordered products or services via the Internet. A survey of 9,500 e-shoppers conducted by BizRate.com reveals that as many as 55 percent of e-shoppers abandon their shopping carts prior to checkout, and 32 percent abandon them at the point of sale (Shop.org, 2001). This shows that the high level of Internet usage does not translate into a similarly high purchase level. As a result, businesses worldwide lost approximately $6.1 billion due to failed purchase attempts in 2000 (Blank, 2000).

The ability of e-shoppers to access a virtually unlimited selection of products, brands and sellers has become a threat to e-tailers, as they no longer have control over consumers' purchase decisions. Consumers can easily change their attention and decisions by switching brands and websites from one to another or abandon shopping carts within a few mouse clicks. Thus it is important for marketers to understand how their potential e-shoppers make decisions to spend their resources of time, money and effort, and the benefits they seek (Laws, 1991). Furthermore, the multi-dimensional nature of consumers' decisions to adopt e-shopping has not been adequately addressed in the past. Most previous studies have generally been centred on consumers' ultimate purchasing activity, such as profiling online buyers and investigating the reasons behind their buying decisions (e.g. Elliot and Fowell, 2000; Miyazaki and Fernandez, 2001; Shim et al., 2001; Mazursky and Vinitzky, 2005). **To establish a wider understanding of the determinants of e-shopping adoption, this study expands the research scope from individual shoppers' characteristics to encompass technological characteristics. Do individual characteristics have more influence on e-shopping adoption compared to technological characteristics? Are they related to one another? To answer these questions, the Technology Acceptance Model (TAM) developed by Davis (1989) is used as the theoretical background in this study.**

What effects do perceived ease-of-use and perceived usefulness have on Internet shopping adoption?

The TAM is one of the most widely used models of new technology adoption. According to the TAM, new technology adoption is influenced by two perceptions: usefulness and ease-of-use. Research has shown that perceived usefulness (PU) affects the intended adoption of an innovation, but has mostly failed to do so regarding perceived ease-of-use (PEU). PEU relates to assessments of the intrinsic characteristics of the new technology, such as the ease-of-use, ease of learning, flexibility, and clarity of websites' interfaces. PU, on the other hand, is a response to user assessment of extrinsic, i.e., task-oriented, outcomes: how e-shopping helps users to achieve task-related objectives, such as task efficiency and effectiveness. **Accordingly, this study aims to identify the importance of these two**

variables to the nature of e-shopping adoption. Specifically, it determines whether PU and PEU are the antecedents to e-shopping adoption.

What effects do individual characteristics have on Internet shopping adoption?

Consumers' adoption of the Internet as a shopping medium involves more than simply purchasing (Freiden et al., 1998). It includes a variety of shopping related activities, such as gathering information, comparing brands, making a choice, placing an order or booking, purchasing a product and conducting a payment. These activities somehow require consumers to be innovative and involved in the shopping process. The degree of involvement, innovativeness and opinion leadership varies between individual consumers. **Thus, this study intends to see whether these personal characteristics influence the decision to adopt e-shopping. Explicitly, it sets out to identify whether consumers' involvement, innovativeness and opinion leadership are antecedents to e-shopping adoption.**

What effects do perceived risk and trust have on Internet shopping adoption?

Any online transaction is not only between the two parties involved (the buyer and the seller) but also involves a third party, the intermediary operating the system, which has to be taken into account. In this context, consumer purchase behaviour is not only affected by risk and trust perceptions of the selling party but is also subject to perceptions of risk and trust associated with the intermediary such as the payment system or transaction network. This has revived the debate about the perception of risk and the manner in which consumers seek to reduce it (see Hoffman et al., 1999; Stewart and Pavlou 2002; Zeithaml et al., 2002). The process of paying remotely is still subject to consumer concerns (Evans et al., 2001) but such fears are gradually being eroded by the promotion of safe-site symbols. According to Burke (1997), companies looking to develop their online sales need to search for ways to reduce the risk perceived by the consumer. On the other hand, Donthu and Garcia (1999) found that Internet shoppers were less risk averse than non-Internet shoppers. **This may extend the influences of e-shopping adoption where perceived risk and trust are seen to have an impact on adoption. Along with the TAM and individual characteristics, it is also essential to understand the effect of perceived risk and trust on e-shopping adoption. Thus, a more accurate reflection of consumers' adoption of e-shopping behaviour would be achieved if the impacts of the above variables were tested simultaneously. This could signify true adoption behaviour.**

Is Internet shopping behaviour different for travel services?

Sixth, other than the above-mentioned Internet research topics, there is still another stream of research that is yet to be explored, namely the impact of product types (e.g. travel services, groceries, banking, education etc) and their characteristics and features on shopping adoption. As mentioned earlier, many studies of e-shopping have been conducted on a general basis, without focusing on a specific product category (e.g. Donthu and Garcia, 1999; Eastlick & Lotz 1999; Citrin et al., 2000; Vrechopoulos et al., 2001; Blake et al., 2003). Consumers are more likely to buy some type of products, such as books, CDs, DVDs, and travel services from the Internet, compared to tangible luxury products such as cars, jewellery, branded clothing etc. Consumer decisions to shop on the Internet may depend on the product type, which will in turn influence the need to obtain specific product information easily and cost-effectively, or to test or try products before purchasing. In bricks-and-mortar retailing, the importance of online store attributes and features varies by product category (Eastlick & Feinberg, 1999), as they are the tools for creating awareness, desire and interest to buy. A recent study in the UK revealed that 35 percent of E-shoppers repeat their online purchase between 5 and 10 times for consumer electronics, while 32 percent shopped over 20 times for groceries within a duration of six months (Aqute Research, 2004). **Drawing upon this gap, this study aims to understand the impact of intangible product such as travel services on e-shopping adoption. This could be a guide to marketers in designing an effective online marketing approach for different types of products.**

What can the Internet and the Worldwide Web do as marketing tools for online travel services?

Seventh, most of the previous research on e-shopping simply extends existing marketing theories and frameworks developed from the traditional retail medium to the new and innovative virtual market place. These approaches may lead to limited or ineffective marketing strategies in e-tailing. Consequently, they will impede consumer adoption of the Internet as a shopping medium. This limited conceptualisation may lead e-tailers to use the Internet only as a transaction medium and leave other commercial opportunities such as promotion, advertising and one-to-one marketing underdeveloped. To be successful, e-tailers must do more than replicate traditional business models in the online market. An understanding of the Internet medium, its ability and capability from an innovation perspective is clearly necessary if e-tailers are to expand their view of the Internet as a potential marketing tool. This could significantly enhance their strategic operations through the Internet as another medium of sales. **Thus, this study will present some practical**

suggestions for alternatives strategies in marketing travel services online. This will be presented in Chapter 8.

Overall, consumers' adoption of e-shopping is a function of the Internet technology itself, Internet retailers, consumers themselves, and the nature of products purchased. These four variables all have an impact on consumers' adoption behaviour. However, there is little research available that provides a comprehensive picture of how all these interrelated factors (i.e. the retailer, the technology, the consumer and the product characteristics) influence consumers' adoption of e-shopping. This adoption behaviour will be better understood within a comprehensive framework showing how these factors work together to influence consumers' e-shopping behaviour, which will be examined in this study.

Based on the background and the rationale presented above, the research questions that will be investigated in this study are as follows:

RQ1: What is the profile of travel e-shoppers?

RQ2: Do perceived ease-of-use (PEU) and perceived usefulness (PU) influence the adoption of travel e-shopping? How do the variables affect e-shoppers' decisions with regard to adopting e-shopping?

RQ3: Do individual characteristics influence the adoption of travel e-shopping? How do these variables affect e-shoppers' decisions with regard to adopting e-shopping?

RQ4: Do perceived risk and trust influence the adoption of travel e-shopping? How do perceived risk (PR) and trust affect e-shoppers' decisions with regard to adopting e-shopping?

1.4 Thesis Structure

The thesis is organised into nine chapters. The first four chapters address the background of the study with regard to aspects of the travel and tourism industry, the diffusion and adoption of innovations and the theoretical framework. The remaining chapters present the empirical research, covering the aspects of methodology, results, discussion and conclusions. Figure 1.2 illustrates the structure of the thesis and a brief summary of the chapters is as follows:

Figure 1.2: Thesis Structure
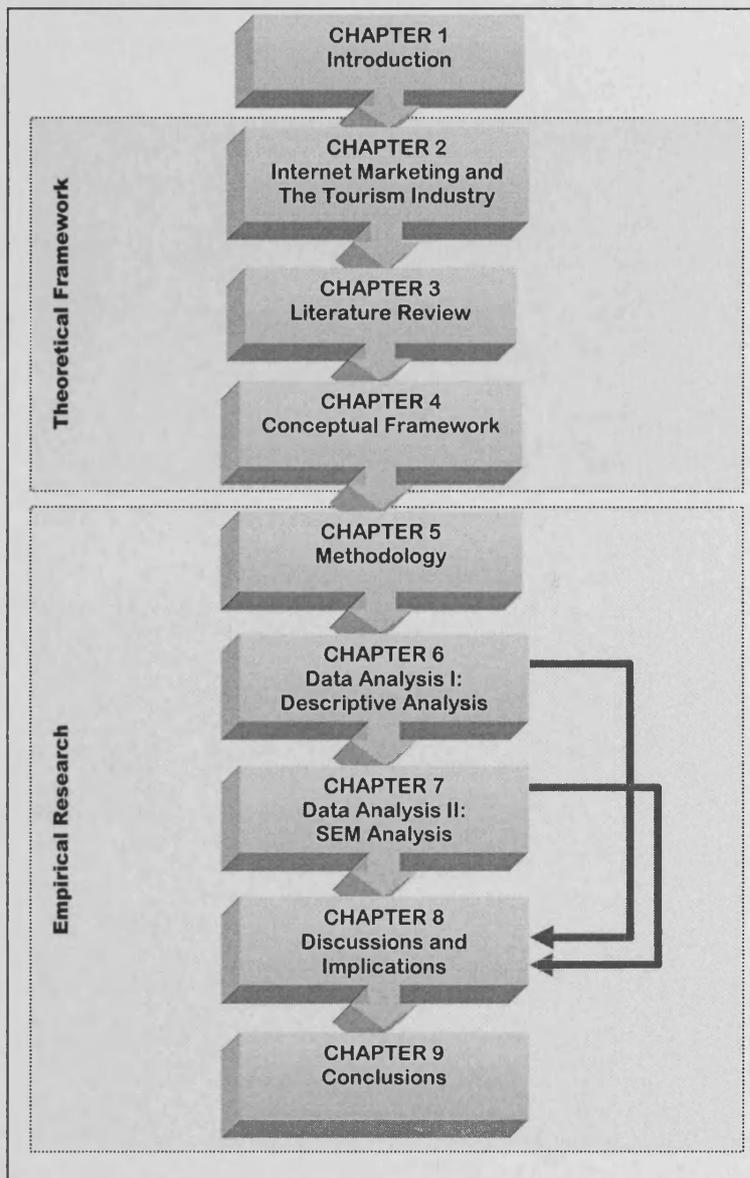
Source: this thesis

Chapter 1:   Introduction

This chapter is an introduction and overview of the study, which includes the research background, research rationale, research problems, research objectives, research questions, research scope, research contributions and the structure of the thesis.

Chapter 2:   Internet Marketing and The Tourism Industry

This chapter provides an overview of the nature of the e-tourism industry in the UK and its development. This chapter is introduced in order to understand the nature of online travel marketing, the types of business, products, current strategies and growth.

Chapter 3:   Literature Review

This chapter documents a critical review of the previous research relating to the research domain, which is divided into six main areas: technology adoption and diffusion, the new technology acceptance model, consumer innovativeness, consumer involvement, perceived risk, trust and other related theories and models. Its objective is to provide a basis for selecting relevant constructs and to select an appropriate theory to build a model for the e-shopping adoption.

Chapter 4:   Conceptual Framework

This chapter provides a conceptualisation of the constructs investigated in the study. A conceptual model, which illustrates the proposed association of constructs, is presented. A series of hypothesis statements for the research is presented accordingly.

Chapter 5:   Methodology

This chapter describes the research design and methodology utilised, which includes exploratory research, the focus group interview and a detailed description of the quantitative data collection techniques that form the main part of the research. The research design includes an explanation of the research approach, methods of data collection, scaling, the sampling procedure, the design and implementation of the online survey, validation and reliability and ethical considerations in data collection.

Chapter 6:   Data Analysis I: Descriptive Analysis

This chapter presents an overview of the research sample profile and provides an account of descriptive results regarding e-shoppers' profiles. The demographic and geodemographic profiles of the UK e-shoppers groups are compared and contrasted in this chapter.

Chapter 7:   Data Analysis II: Structural Equation Modelling

This chapter provides a detailed description of procedures and steps undertaken in applying SEM for testing the research hypotheses formulated in chapter 4 as well as the model. This chapter also describes the procedure undertaken in evaluating the validity and reliability of each construct, as well as the evaluation of the model's fit through the indices produced from SEM results.

Chapter 8:   Discussions and Implications

This chapter presents the research and discusses the research questions, drawing upon the overall data analysis and research findings. The chapter also examines the implication of the findings for theory and practise as well as providing the relevant recommendations.

Chapter 9:   Conclusions

This chapter concludes the study by summarizing the contents of each chapter of the thesis. It delineates the contributions of the study to marketing theory, methodology and industry practitioners, and subsequently offers suggestions for future research directions based on the research limitations.

1.5   Conclusion

This first chapter has presented an overview of the research. The background and rationale of the research, the research objectives, the research problems and questions were addressed. Then the research contents were outlined. The chapter aims at acquainting the readers with the holistic picture before elaborating on the research theme in the subsequent chapters.

A deeper discussion regarding the background and role of the Internet in marketing travel services, the UK travel services industry and the theoretical background related to consumer adoption behaviour will take place in chapters two and three. Then a model that represents e-shopping adoption will be proposed in chapter four and analysed in the subsequent chapter.

INTERNET MARKETING AND THE TOURISM INDUSTRY

"Industry is a bit like the human body. The cells are continuously dying and unless new cells

are created, sooner or later the whole thing will collapse and disappear."

– Sir John Harvey-Jones –

–Making it Happen (1987) –

THE THESIS STRUCTURE

Chapter 1:
Introduction

Chapter 2:
Internet Marketing &
The Tourism Industry

Internet Diffusion

Internet Marketing

The Tourism Industry

Chapter 3:
Literature Review

Chapter 4:
Conceptual Framework

Chapter 5:
Methodology

Chapter 6:
Data Analysis I
Descriptive Analysis

Chapter 7:
Data Analysis II
SEM

Chapter 8:
Discussions & Implications

Chapter 9:
Conclusions
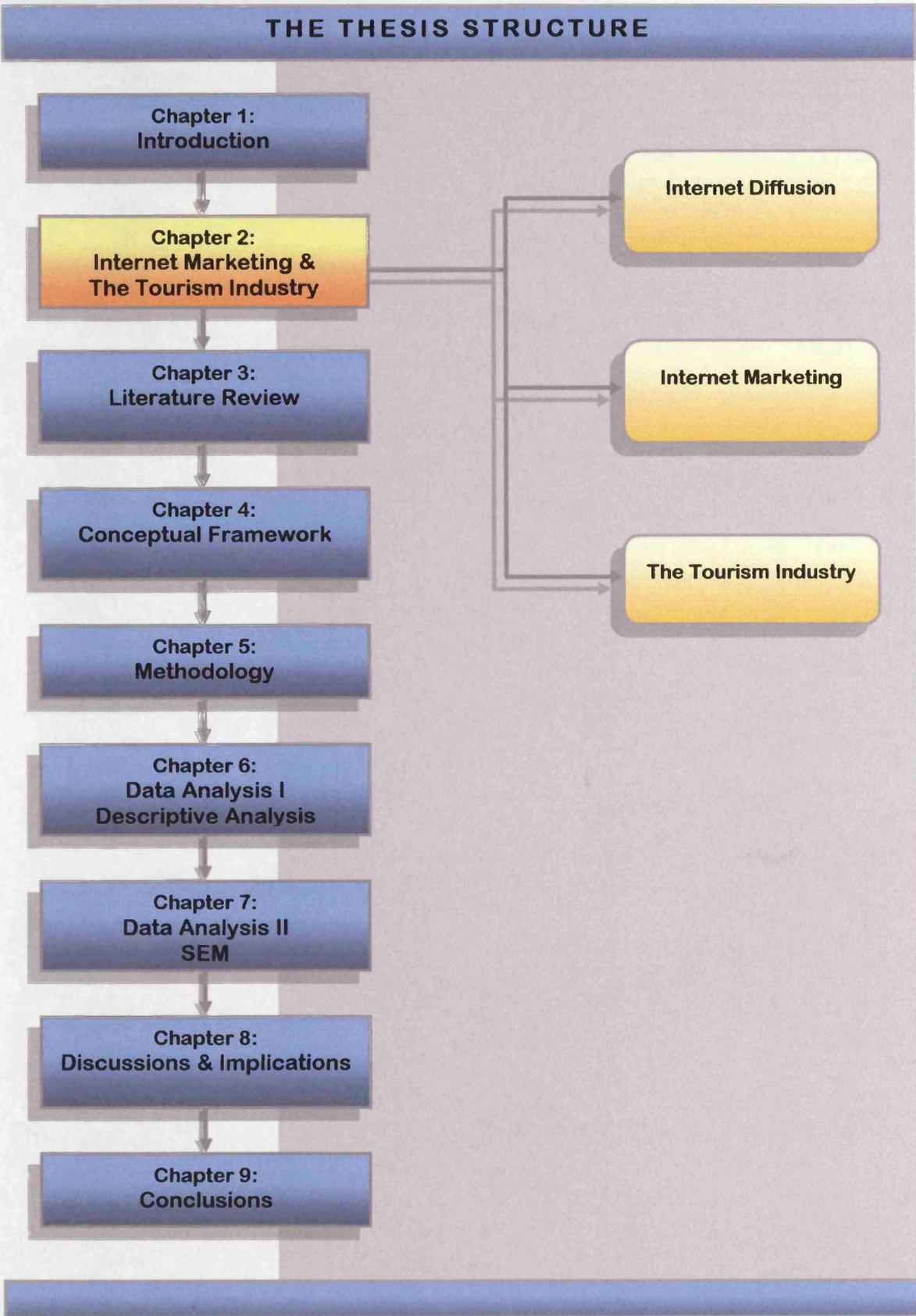
Chapter Two
INTERNET MARKETING AND THE TOURISM INDUSTRY

2.0   Introduction

The tourism industry is the fastest growing sector of the global economy. This industry has evolved dramatically in the past 20 years as a result of changes in the environment, economics, technology, and consumer behaviour and lifestyles. These revolutions have caused the mass tourism that dominated the 1970s and 1980s to give way to the new tourism, involving new tourists, new technologies and new management practices (Poon, 1993). Tourism is responsible for generating up to 10 percent of the world's GDP and 100 million jobs, either directly or indirectly (WTO, 2000). On the other hand, it is estimated that tourism accounts directly for 5 percent of the EU's total GDP and represents 2.2 million enterprises and 7.7 million jobs (WTO, 2004). In the UK alone, total direct employment in tourism-related industries in 2002 was nearly 2.1 million people, or 7 percent of those in employment (Richard, 2003).

The Internet is one of the causes of the dramatic changes in the tourism industry. It is the newest and most powerful tool available to tourism marketers nowadays. The Internet also provides massive opportunities to reach new markets and to improve business efficiency. Based on past and present data, the tourism industry's global performance is unquestionable. The opportunity for travel retailers to succeed in the virtual marketplace is intense; however, they need very systematic planning and implementation of e-business practices, as well as the skills required. Likewise, Internet marketing history, composition, capabilities, limits and potentials within a marketing strategy must be fully understood in order for it to be successfully incorporated into a marketing plan.

This chapter presents an overview of the tourism industry and explores the importance and role of Internet marketing in the industry, focusing on travel services. It begins by outlining the background of the Internet, Internet marketing, its importance and present development. Subsequently, a review of tourism businesses, product characteristics, businesses structure and the features of travel websites are presented. This is followed by an overview of current online travel marketing development in the UK and the possible limitations faced by travel e-tailers in pursuing their e-strategies.

2.1 Internet Diffusion

The Internet has grown phenomenally since 1995, when an estimated 20 million people were online (Godin, 1995). To date, estimates of the total worldwide Internet population are 945 million (Computer Industry Almanac Inc., 2004); 445.9 million (CyberAtlas, 2002), and 605.60 million (NUA, 2002) and it is predicted that 1.35 billion people will be online by 2007 (Computer Industry Almanac Inc., 2004). Table 2.1 exhibits the current population of Internet user and the growth rate based on world regions.

Table 2.1:   World Internet Usage and Population Statistics

World Regions	Population (2005 Est.)	Population (%of World)	Internet Usage	Usage Growth 2000-2005	% Population (Penetration)	World Users %
Africa	896,721,874	14.00%	16,174,600	258.30%	1.80%	1.70%
Asia	3,622,994,130	56.40%	323,756,956	183.20%	8.90%	34.50%
Europe	731,018,523	11.40%	269,036,096	161.00%	36.80%	28.70%
Middle East	260,814,179	4.10%	21,770,700	311.90%	8.30%	2.30%
North America	328,387,059	5.10%	223,392,807	106.70%	68.00%	23.80%
Latin America/Caribbean	546,723,509	8.50%	68,130,804	277.10%	12.50%	7.30%
Oceania/ Australia	33,443,448	0.50%	16,448,966	115.90%	49.20%	1.80%
World Total	**6,420,102,722**	**100.00%**	**938,710,929**	**160.00%**	**14.60%**	**100.00%**

Source: Internet World Stats, 2005 (Updated on July 23, 2005)

As seen in Table 2.1, Internet usage in the European region is the second highest after Asia, with close to 270 million people using the Internet. By comparison, the European region is in third place, behind North America and Oceania/ Australia, in terms of the Internet penetration rate, which is about 37 percent of the population. However, the European region contributes more than a quarter (28.7%) of the world's Internet users, the second largest contribution after Asia.

In the UK, in the past 12 months, the number of people actively surfing the Web from home each month has grown by 15 percent to 23 million (Nielsen//NetRatings, 2004b). As presented in Table 2.2, the growth of UK Internet usage has reached nearly 130 percent in the last 5 years, with approximately 60 percent of the total population using the Internet. According to the survey, the use of high-speed Internet connections has also increased dramatically. The number of people in the UK using the Internet at high speed has increased from 5.3 million people to 11.5 million people from October 2003 to 2004.   This is an impressive increase of 117 percent. High-speed connections are more popular with

households with five or more people, compared to smaller households, which tend to favour slower connection speeds of up to 56k.

Table 2.2: UK Internet Usage and Population Statistics

Population (2005 Est.)	59,889,407
Internet Users	35,179,141
User Growth (2000-2005)	128.4%
Penetration (%Population)	58.7%
%Users in EU	16.3%
Note: Statistics were updated on July 23, 2005.	

Source: Internet World Stats, 2005

The evolution and tremendous usage growth of the Internet, and its deregulation from a research tool into a free network that anyone may use, implies that marketers are now positive towards adopting the Internet as a marketing tool. This has radically affected the ways in which marketers apply their skills, and has forced them to acquire new skills altogether. On the other hand these advances also affect consumers, who can do their banking, book flights, order products, or plan trips from home. The Internet and the Web have made all of these activities, and much more, possible.

2.1.1   The Internet and the World Wide Web

The term 'Web' or 'www' is often used as a synonym for the Internet, but the Web is actually a service that operates over the Internet. The Internet and the Web are two separate but related entities. The Internet is a massive network of networks, a networking infrastructure. It connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are both connected to the Internet. Information that travels over the Internet does so via a variety of languages known as protocols (Webopedia, 2005). On contrary, the web is one of the many methods by which information can be disseminated over the Internet apart from e-mail, File Transfer Protocol (FTP), instant messaging and newsgroups. The web is an information space in which items of interest, referred to as resources, are identified by global identifiers called Uniform Resource Locators (URLs) (Webopedia, 2005). The Web also utilizes browsers, such as Internet Explorer or Netscape, to access Web documents called Web pages that are linked to each other via hyperlinks.

The Web is an incredibly powerful communications and research tool, which can help marketers to effectively perform traditional marketing duties such as conducting market research, examining competitors, forecasting and advertising. The key advantage is that the

Web has the ability to display information in multimedia format, including graphics, sounds, text, video, interactive tools and animations. Therefore, the Web is the Internet medium that allows users to search for required information within and between Web pages, and incorporates most aspects of other Internet services such as e-mail, FTP and Newsgroup mailing lists. For these reasons, the Web has become more popular than non-Web functions and attracts millions of users to surf the Internet regularly.

Despite the vastness of the Internet, and its rapid growth, only a certain portion of the world's population has access to it, and this access is concentrated in certain countries, areas or socio-economic groups. Therefore, when marketing on the Internet, there are several questions that marketers must consider, such as: What are the advantages, disadvantages and general rules for Internet marketing? What is the nature of the product or service to be marketed, and is it suitable for marketing on the Internet? Will those people to whom marketers wish to market have access to the Internet? What parts of the Internet should marketers use (i.e., the www, e-mail, FTP, etc.) and how will marketers integrate them into their marketing plan?

With regard to integrating the Internet and the Web into marketing strategies, the characteristics, possibilities and limitations of the new technology must first be recognized. In order to address these issues, the subsequent section will provide a brief background to the current development of marketing travel services on the Internet.

2.2 Internet Marketing

Internet marketing refers to the use of the Internet to advertise and sell goods and services. Internet marketing includes advertising, e-mail marketing, Search Engine Optimization (SEO), blog marketing, article marketing, etc. Initially, much of the literature concerning Internet marketing was actually focussed on advertising and selling (see Resnick and Taylor, 1994; Gonyea and Gonyea, 1996), rather than using the Internet throughout the entire marketing process. However, this trend is changing as a large quantity of publications focussing on the integration of the Internet into the overall marketing plan has been published recently (see Hofacker, 2000; Sterne, 2001; Smith and Chaffey, 2001; Dave Chaffey et al., 2003). The Internet's role in marketing is rapidly evolving over time.

2.2.1 Roles of Internet Marketing

Marketing on the Internet is affordable, dynamic and wide reaching. Many publications on the topic of Internet marketing have pointed out its various benefits to both marketers and consumers.

First, the Internet may be used to assist each step in the traditional marketing process, such as analysing the external business environment, identifying target markets and promotion. In particular, provides increased access to information about competitors, current customers, prospective customers and even the marketers themselves (Ellsworth and Ellsworth, 1995). The Internet has made it easier for businesses to see how their competitors are implementing their marketing strategies, and thus makes it easier for ideas and innovations to be copied (Kotler et al., 1996; Jobber, 2004). Furthermore, as a result of Internet technologies, businesses are able to reduce certain operating costs, such as investment (setting up), ordering, personal selling, distribution and promotions (Jobber, 2004).

Second, the Internet offers numerous advantages over traditional marketing channels that can improve a company's marketing activities (Keeler, 1995). The Internet provides a channel for faster, easier and more direct communication, both internally and externally (Ellsworth and Ellsworth, 1995; Sterne, 2001). It enhances external communications and helps to eliminate barriers between companies and their customers (Marlow, 1997), and promotes disintermediation (Krantz, 1998), which refers to the elimination of the need for middlemen or intermediaries, such as travel agents, salespersons, etc. (Bishop, 1996). It saves time and shortens the marketing process from producer to end-user. This brings the company and the consumer closer together, enabling better relationships and greatly improving customer service (Ellsworth and Ellsworth, 1995; Bishop, 1996).

Third, the Internet also offers unique opportunities to marketers to establish new forms of competitive advantage that include tailored and customised products, uninterrupted trading hours and more informed customer service (Jobber, 2004). Furthermore, product information on websites can be constantly updated, providing customers with the most current products, the correct prices, or the most up-to-date facts and figures. In addition, the interactive capabilities of the Web induce users to be intensely involved with websites, thus increasing their recall and interest in these websites. Sterne (2001) strongly emphasizes the fact that a website is not something people read, it is something they *do:* visiting a website is an activity. Furthermore, Internet marketing provides every business, large and small, with the opportunity to compete on a global stage, which can be accomplished in less time with a smaller marketing budget (Mathiesen, 1995).

Fourth, with regard to the consumers, the Internet enables them to take control of their buying process when shopping online (Keeler, 1995) as well as providing convenience, saving time and money and reducing hassle. They are provided with more choices and options, more information, more power, less discrimination and a better service (Ellsworth and Ellsworth, 1995; Keeler, 1995; Kotler et al., 1996; Sterne, 2001). For these reasons,

more people are getting on the Internet every day to do things that were not possible before (Marlow, 1997), such as grocery shopping, paying bills, or banking without leaving their homes. This provides companies with the possibility of creating new products and services that they had not imagined prior to the creation of the Internet. The Internet can be of great assistance in attracting consumers, especially those who are primarily convenience shoppers. They are more likely to shop online than those that seek social interaction. However, its effectiveness in attracting people to shop for travel services on the Internet is still unknown and has yet to be examined in most travel research. **Therefore, this study aims to explore this phenomenon by providing a profile of Internet travel shoppers and the antecedents of their adoption of this form of shopping.**

In spite of these advantages, Internet marketing practices must be monitored more closely, because all the marketing stages happen at the same time (Bishop, 1996). Sterne (2001) suggests that the market segment of people who are on the Web and who might have an interest in it is a special segment and deserves some special attention. These consumers should be treated as individuals, and Internet promotions should be created on a one-on-one basis (Ellsworth and Ellsworth, 1995). **Hence, it has been an interest of this study to understand this special segment in terms of its profile and behaviour while providing relevant recommendations to existing and future e-tailers. The next section provides a brief description of the tourism industry in relation to marketing strategy.**

2.3 The Tourism Industry

Tourism can be traced back to the time of Alexander the Great, from 356-323BC (Poon, 1993), but was the privilege of only a few very rich people until the development of railways and steamships. Thomas Cook, the "*father of modern tourism*" (English, 1986, p. 3), launched his travel company in the 1840s, and produced the first package tours in 1862. Train, boat and coach travel were the norm until the 1950s, when air travel on a large scale was made possible by the extra airline capacity created at the end of World War II. Mass international tourism flourished during the 1960s through the 1980s, due to "*post-war peace and prosperity, paid holidays, governments' promotion of tourism ... sun-lust and inexperienced mass consumers*" (Poon, 1993, p. 33).

The term 'tourism' has been defined in many ways, and as yet there is no universally accepted definition. Timmons (1991) defines tourism as an activity where people visit other people and places, while Jefferson and Lickorish (1991) denote tourism as all movement of people outside their own community for all purposes except migration or regular daily work. Despite the lack of a common definition, there is an agreement upon the importance of

tourism, and many have emphasized the need for further study of this enormous and complex industry (Sinclair and Stabler, 1991; Poon, 1993).

2.3.1   The Characteristics of Tourism Products

The 'product' of tourism has been described in many ways, such as: a satisfying activity at a desired destination (Jefferson and Lickorish, 1991); and a bundle of benefits and an amalgam of attractions, transport, accommodation and entertainment (Heath and Wall, 1992). Tourism encompasses many businesses such as hotels, flights, trains, car rentals, entertainment tickets etc, each of which has different product characteristics.   These products' characteristics need to be considered when embarking on marketing efforts.

Tourism products essentially consist of two parts, as shown in Figure 2.1 (Gratzer et al., 2002). The first part includes transportation, accommodation and attractions. The producers of these services, including air, sea and railroad carriers, hotels and accommodation and the various forms of attractions such as skiing resorts, fun parks and natural attractions, are called the service suppliers.   The second part includes the services sector of the industry, which is used to deliver these products to the consumer. The distribution channels of the tourism industry are very important, because the products of the tourism industry are invisible services, inaccessible to feel, smell, touch and inspection at the point of sale. Holloway (1994) provides a basic understanding of the nature, structure and organization of the tourist industry, while Schertler (1995) describes travel and tourism products as perishable. They must be sold within a certain period of time or they become worthless.

Figure 2.1:   Product Creation in the Tourism Industry
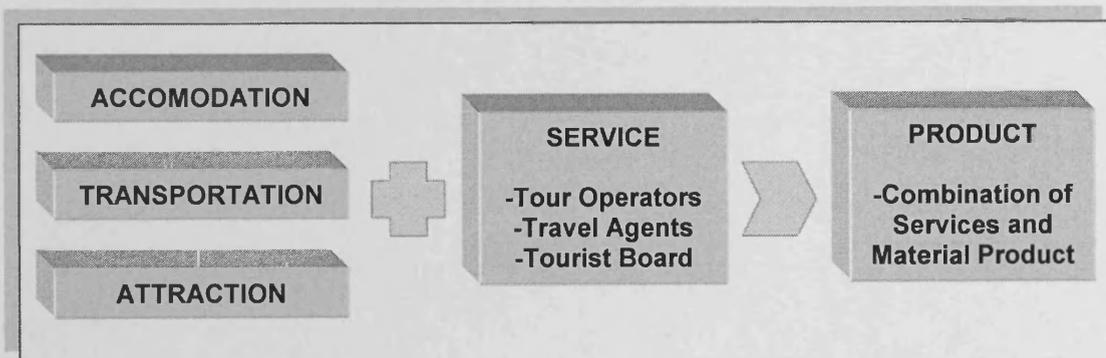
Source: Gratzer et al., 2002

Tourism is obviously a 'service' where products are purchased through an exchange transaction that does not confer ownership but permits access to and use of a service at a specified time in a specified place (Middleton, 1988). As far as service is concerned, there are four common characteristics that apply to travel services: *intangibility, perishability,*

inseparability and *heterogeneity* (Mill and Morrison, 1985; Middleton, 1988; Laws, 1991; Weichard, 1992; Holloway and Robinson, 1995). These four characteristics of services are based on the systematic review of the service literature by Zeithaml et al., (1985) and are defined as follows:

i. **Intangibility**— refers to performances rather than objects, where most cannot be counted, measured, inventoried, tested or verified in advance of delivery to ensure quality;

ii. **Inseparability**—the simultaneous nature of service production and consumption compared with the sequential nature of production, purchase, and consumption that characterizes physical products;

iii. **Heterogeneity**—the relative inability to standardize the output of services in comparison to goods;

iv. **Perishability**—the relative inability to inventory services as compared to goods

Applying to the travel services context, *intangibility* is the idea that a travel service cannot be touched, tasted, seen, heard or smelt before it is bought (Weichard, 1992). Thus travel services are *perishable*, because they cannot be stored and sold at a later date (Weichard, 1992). Further, the travel experience is *inseparable* from the people or products providing the service, and thus the consumer's perception of the quality and overall satisfaction is directly influenced by the attitudes and performance of the person, or the condition of the product, which performed the service. Closely related to inseparability is the idea that each consumer's experience will be different because the moods, attitudes and external forces influencing people's behaviours will continually vary (i.e., they are "*heterogeneous*").

Additionally, Middleton (1988) suggests three other important characteristics of travel services that influence marketing strategy, namely:

i. **Seasonality and demand fluctuations** - the demand for tourism products and services varies on a daily, weekly, monthly and yearly basis, mainly as a result of varying climatic conditions and the patterns of the school and business year.

ii. **The interdependence of the tourism product** - interdependence occurs because when tourists visit a destination, their experience is made up of several services, such as accommodation, transportation and attractions.

iii. **The high fixed costs of service operations** - travel services have high fixed costs, meaning that in order to perform a tourism service, the fixed costs are practically identical regardless of how many people use the service. For example, to operate a hotel, overhead costs are virtually the same, regardless of whether there is 30 percent or 70 percent occupancy on a particular day.

In addition, Wheeler (1995) describes the tourism industry as 'volatile', because it is affected by world events and the health of national economies. The incident of September 11, 2001 is an example of the tourism industry's volatility. The attacks significantly impacted tourism in New York, which suffered a loss of almost $1 billion (NYC and Company, 2002), and in the entire travel sector (World Tourism Organization, 2002). **Thus, the special characteristics of travel services mentioned earlier must be taken into consideration when designing an Internet marketing campaign. The next section describes the development of Internet marketing in the travel industry.**

2.3.2   The Structure of the Tourism Market

As previously described, tourism service providers are a group of many different players, such as tour operators, travel agents, tourist organisations, airlines, hotels, etc.   In distributing tourism products to consumers, these service providers may be connected to one another via electronic services such as CRS or GDS (see Figure 2.2 & Table 2.3). The electronic distribution alternatives, automated and non-automated tools are open to all types of travel marketers in reaching the customers. Tourism marketers apparently have many choices of interconnectivity combinations, involving private and public sector intermediaries, and a variety of automation devices. Although these have the potential to source valuable business, they are associated with increased transaction costs, imperfect technology access and limited visibility in the market place (Dietrich et al., 1997). Thus, it is considered vital that the travel marketers evaluate the degree to which the various connections enhance their product and are transactional in their target markets.

According to the literature, there are two main channels of distribution in the travel industry. The first channel is direct to the tourist via direct marketing, phone or fax, Web and advertising in different kinds of media. The second, more common way involves selling the products and services to the customers through intermediaries (Gratzer et al., 2002). For example, hotels companies can utilize many channels to sell their rooms directly to customers through their sales offices, call centres or own websites. The indirect channels via intermediaries are also open to them, such as via conventional travel agents, online travel agents such as *Expedia.co.uk,* online travel portals such as *Opodo.com*, tour operators and consolidators. However, it is important to note that the difference between the travel industry and other industries is the way profit is obtained by retailers. Travel agents do not buy travel services and do not mark up prices. They get paid a commission or a percentage of the selling price by the wholesaler or the supplier, such as airlines (Gratzer et al., 2002).

The structure of the distribution flow in the travel and tourism industry is shown in Figure 2.2, while Table 2.3 presents a description of each of the components that have the potential to connect, interact and communicate using electronic digital technology.

Figure 2.2:   The Structure of the Tourism Market

Note:
NTO	National Tourist Office	RTO	Regional Tourist Office
LTO	Local Tourist Office	DMO	Destination Management Organisation
CRS	Computer Reservation System	GDS	Global Distribution System
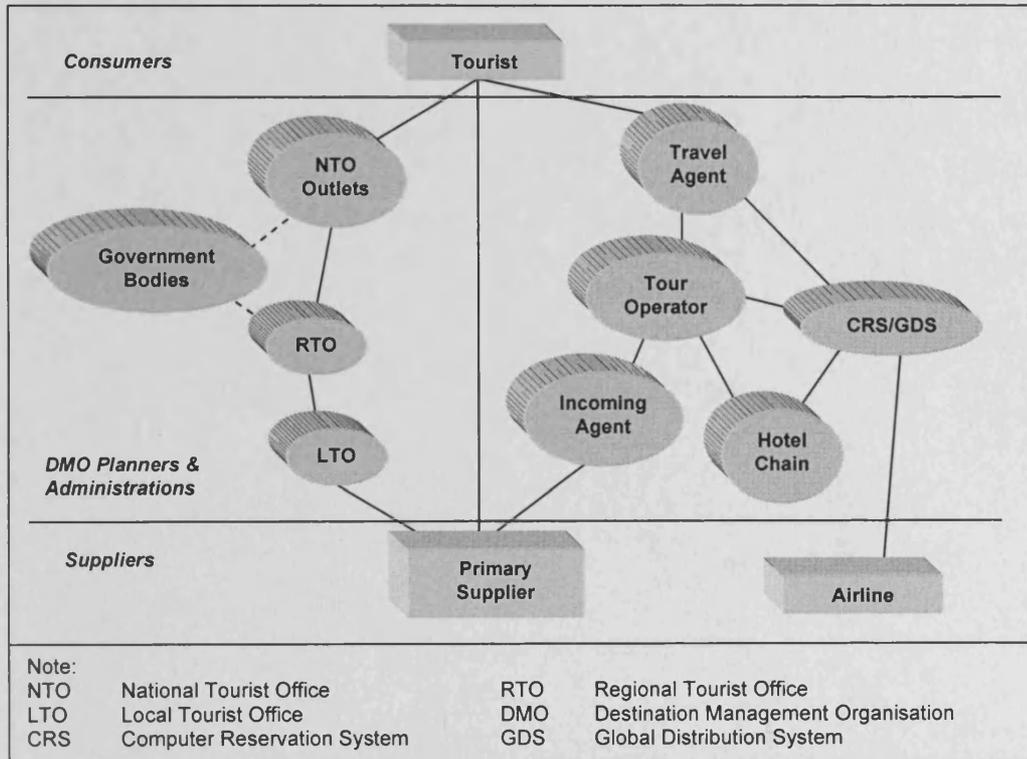
Source: Werthner and Klein, 1999

Table 2.3:   Components of the E-Distribution System for Travel Services

Components	Descriptions
Centralised reservation systems (CRS)	All information needed to make a reservation, e.g. product specification, price, quality, availability, etc., is consolidated within a computerised centralised reservation system. The large hotel groups, consortia, and specialist reservation companies, with CRSs are permanently linked to the GDSs.
Global distribution systems (GDSs)	Four dominate travel bookings world-wide: Amadeus/System One (Lufthansa, Air France, Iberia); SABRE (American Airlines); Galileo (United Airlines, BA, KLM, US Air, Swissair); and WORLDSPAN (TWA, North West, Delta). Through these systems travel agents have accurate, real-time information on a hotel's rates and availability.
National tourism organisations (NTOs)	Increasingly moving towards a leadership role in the co-ordination of small hotel firm marketing activities. Specifically, in the form of integrated destination management systems, developed through collaboration with software houses and government agencies, e.g. Integra and the Scottish Tourist Board.
Reservation companies	A specialist retail outlet for the hotel product offering. They are CRS driven and have access to GDS. In effect these organisations act as brokers, holding stock of available rooms for sale to all interested parties.
Travel agents	Retailers of the composite tourism product of which hotel accommodation is part. Acting as an agent for participating hotels they distribute their product, which entitles the agent to a commission of 10-12% on the sale.
Tour operators	Consolidate the components of the tourism product into a package, which can be sold through distribution systems to the public. They do not sell direct to the public but through outlets such as travel agents or airline sales offices.

Source: Emmer et al., 1993; Welch, 1996; Buhalis and Main, 1997

As illustrated in Figure 2.2, the simplest route in the tourism distribution system is direct contact between the end-user and the supplier. Customers can either use a phone, fax, or the Web to make a reservation or walk in to the ticket counter or reservation desk. For example, in the case of flight tickets, travellers have the options to purchase the ticket either from British Airways' website, the ticket counter office or offline/ online travel agents. However, the suppliers gain a greater net profit per unit if they sell directly to the customer. For example, a flight ticket (worth £300) costs the customer the same £300 when it is received directly from the airline or via a travel agency. But when it is bought via the travel agent, the airline has to pay about five percent commission to the retailer, a commission to the reservation system (CRS) and a credit card fee for the payment transaction. At the end, the airline has only a net profit of £260. So it is clear why, for example, low cost airlines such as Ryan Air, Easy Jet and BMIBaby seek to sell directly online to travellers, especially when the distribution costs are the largest part of the airline operating expenses.

Since the Internet encourages direct and immediate contact between service providers and consumers, together with a decrease in transaction and commission costs, there is a strong case for eliminating intermediaries entirely (Vandermerwe, 1999). They are being replaced

by electronic brokers whose role is to aggregate and disseminate travel information to customers (Fache, 2000). For instance, websites like *Expedia.co.uk* and *Lastminute.com* provide aggregated services such as flights, accommodations and car rentals, with the aim of being a one-stop-shop built around convenience. Hence, consumers can conveniently self-build a combination of various complementary travel products with relatively little difficulty as compared to the traditional context. As a result, many traditional travel businesses have developed their own websites and interactive divisions, while others are acquiring Internet companies. **It is strongly believed that the interrelated distribution system among the tourism players is worthy of further investigation in an attempt to provide additional insights, particularly by pursuing empirical research.**

2.3.3   The Travel Services Websites

Despite the choice of distribution channels available, most travel businesses have invested in IT development, particularly the Internet. Travel businesses such as airlines, car rental companies and international hotel chains have been quick to grasp the potential of marketing and selling their services online. They have recognised the huge opportunities offered by Internet marketing, such as selling their travel services directly to the customer. This is to make their products more accessible in an easy and inexpensive manner, and available to a variety of markets both domestically and internationally. While the majority of low cost airlines' sales are via their own websites, the sales of large airlines such as *KLM* and *British Airways* are through both channels: their own website and online travel agents' websites such as *Travelocity.com, Expedia.co.uk, Opodo.co.uk* and so on.

Literally, a website refers to a site (location) on the www (Webopedia, 2005). Each website contains a homepage, which is the first document users see when they enter the site. The site might also contain additional documents and files. Each website is owned and managed by an individual, company or organization. On websites, travel e-tailers could utilise a variety of Internet marketing materials and tools to attract and make travel services tangible to potential customers. These materials include pictures, maps, animation, video, textual descriptions, catchy banners, pop ups, and sounds or music elements that are used to complement the images created by the visual elements. These elements mostly have multimedia capabilities and, therefore, are valuable devices for creating images of travel services.

Via websites, travel e-tailers have more creative ways to market their services as well as attracting potential customers. A number of past studies have examined the features that draw consumers to a particular website. Among these features are: security (e.g.

Swaminathan et al., 1999; Szymanski and Hise, 2000), vividness (Coyle and Thorson, 2001) and its correlate riskiness (e.g. Bhatnagar et al., 2000), approval by referent others, like family or friends (e.g. Shim et al., 2001), feature organization (Bucy et al., 1999), quality of content (Jarvenpaa and Todd, 1997), price (e.g. Lynch et al., 2001 and Swaminathan et al., 1999), recognisability and/or desirability of brand (e.g. Degeratu et al., 2000), and time delay/download speed (e.g. Yoo and Donthu, 2001). Accordingly, more travel websites have shifted their focus, from information-intense websites that are primarily used to inform potential consumers to more sales-oriented websites.

Most travel websites currently offer facilities such as availability checking, immediate booking confirmation, seat reservations, online cancellations and payment. Times Online (2005) has rated the best 90 travel websites (see Appendix 2.1), with new websites constantly emerging that offer various useful information, searching and booking facilities that deliver right to consumers' desks. Figure 2.3 exhibits an example of the current trend of online travel agents' websites, which consist of various useful website elements to provide a pleasant and enjoyable shopping experience as well as convenience.

Figure 2.3: Internet Travel Agent Store Features

Source: http://www.thomascook.com/

Figure 2.3 exhibits a website consists of pictures, videos, animations, graphics, interactive maps, a journey planner, search tools, text, and even currency converters. Apart from highlighting some of the holiday package offers, the website also allows shoppers to

customise or self-build their travel packages. These Web features are meant to facilitate shoppers to navigate through the websites while providing a pleasant e-shopping experience.

Studies on the efficacy of websites are extensive, with the majority aimed at assessing a diverse range of providers in the tourism industry (Morrison et al., 1999; Kasavana, 2001). In addition to this, some studies have found that consumers who have more exposure to and longer experience with the Internet have a higher probability of shopping online (Blake et al., 2003; Citrin et al., 2000; Goldsmith, 2001). It has also been established in earlier works that there is a relationship between website characteristics and online purchase intentions under the framework of the Technology Adoption Model (see Davis, 1989; Davis et al., 1989). This model will be further explained in the next chapter.

However, it is important to note that specific issues of website effectiveness dealing with technical performance are outside the context of this study. This study is structured around the ease of use and usefulness of travel websites that could stimulate consumers to shop online. Ease of use would imply aspects such as navigability, efficiency, consistency and compatibility (Morrison et. al., 1999). In addition, it is also relates to the information, features and functionality available on the website. This is especially the case with complex travel services such as tours, packages and cruises, where consumers seek extensive information before making a purchase. On the other hand, the perceived usefulness of a website can be gauged by the website's ability to attract existing customers and provide services such as redemption of reward points or air miles (Shankar et al., 2003). **Thus, it is important for the present study to assess the contributions of ease of use and usefulness through travel websites' features in influencing the adoption of e-shopping.**

2.3.4 The UK Online Travel Market

Tourism is one of Britain's largest and fastest growing industries. In the online UK market, flights and holiday accommodation are the most popular purchases (37%), followed by books or magazines (31%), tickets for events (23%) and music or CDs (19%) (National Statistics, 2001). Internet technology is facilitating this growth by offering access to various travel services on product information, tariffs, availability and online reservation services. According to the Association of British Travel Agents (ABTA), the UK online travel market is expected to be worth £4.8 billion by 2007; this is reliant upon growing Internet penetration and increased user confidence, together with improved technology, products and content from online travel retailers. Likewise, Jupiter MMXI estimates that the UK was the biggest online travel market in Europe in January 2002, with almost 6 million people visiting travel

sites. They also stated that travel websites were mainly popular with people earning over £45,000 per annum, followed by all other income levels.

Despite this growth, a MORI poll conducted in September 2000 amongst UK holidaymakers revealed that 39 percent of UK holidaymakers had already used the Internet as a source of travel information, whereas 17 percent had used the Internet to book travel services online at some time, such as flights, car hire and ferry crossings. Further, only three percent of the holidaymakers had booked their last package holiday via the Internet. Although 56 percent of the holidaymakers had Internet access, they did not book travel services over the Internet for various reasons, such as preference for face-to-face advice (18%); lack of Internet access at the time (16%); worries about security (14%); lack of convenience (10%) and access to better bargains elsewhere (10%). **This issue has motivated this study to investigate further what actually makes consumers shop for travel services online.**

In terms of Web shopping locations, *Lastminute.com* was the most popular travel website in February 2002 with 679,000 unique visitors, up from 628,000 in September 2001 (English Tourism Council, 2002). However, a survey from Jupiter Communications indicates that amongst UK visitors, there are different preferences between genders in term of places to shop for travel services online. Women prefer websites offering flights only, such as *Cheapflights.com, EasyJet.com* and *Ryanair.com,* while men do not have a preference for a particular type of travel site. Correspondingly, the latest research by Nielsen//Net Ratings (2005) found that women in Europe accounted for 44 percent of travel website visitors, which was an increase from 36 percent in 2004.

2.3.5   The Barriers to Travel E-tailers

A survey undertaken by the English Tourism Council (ETC) in 2001 on the use of ICT by accommodation businesses found that there was lack of e-marketing awareness and skills among UK tourism businesses, especially small businesses (i.e. under ten employees). The survey suggests that the main barriers preventing small businesses from using ICT were cost, lack of knowledge and skills, lack of time and a belief that the existing methods of gaining business were satisfactory. The ETC also highlighted other barriers to successful adoption of e-marketing, including:

i.   The lack of a viable e-business environment – no integrated network within which smaller tourism providers can work cost-effectively and easily with existing Web-based booking systems

ii. A variety of tourism data formats that serve to limit 'interoperability' (i.e. systems working well together) – instead, several different systems that are not connected are used by destinations, hotel groups or tourism operators

iii. A lack of integration of tourism data and e-commerce tools – much tourism information is as yet unconnected to effective real-time booking and transaction capability

iv. A variety of models for holding inventory (e.g. bed spaces to sell) and bookings have been adopted by destinations and commercial operators, with limited ability for these to work together seamlessly

v. The cost for businesses in adopting individual solutions, with no guarantee that these solutions will meet consumer needs or reach appropriate markets

vi. Limits on telecommunications bandwidth in many parts of the country, constraining the quality of e-services

vii. Restrictions on local authority funding, which impact on the resources available for public investment in ICT and staffing, thus making it difficult to rely on the DMO structures as the cornerstone that they ideally should be

In order to succeed, tourism organisations should establish a strategy that offers solutions to overcome these barriers and enables easier access both for consumer information and business-to-business communication. **Therefore, this study aims to provide significant suggestions to practitioners based on the findings gathered from the behavioural aspect of consumers in adopting travel e-shopping. These would be able to provide a useful guide for travel marketers in enhancing their Internet marketing strategies. A detail discussion of these suggestions will be presented in the final chapter.**

2.4   Conclusion

This chapter presents an overview of the study context. The principle topics that have emerged from the discussion are the importance and utilization of Internet marketing to the tourism industry, with attempts to provide a better understanding of this complex industry that consists of variety of different services. This has been approached by spelling out the concept of Internet marketing, the structure of tourism businesses and the development of e-tourism marketing.

Despite being one of the most dynamic and fastest growing industries in the world, very little empirical study has been undertaken on this topic, particularly in the context of Internet shopping adoption. The role of the Internet in marketing travel services, and the needs, wants, and preferences of Internet users, are yet to be examined. There have been very limited studies on e-shopping adoption with a focus on travel services from the new technology acceptance approach. On the other hand, some researchers have discussed the impact of the Internet on travel agents and the role of electronic intermediaries in the travel business (see Reinders and Baker, 1998; Vandermerwe, 1999; Kaynama and Black, 2000; Fache, 2000). There were also comments that the tourism industry has traditionally been relatively slow on the uptake of new information technologies, particularly in the travel agency sector (Christian, 2001; Barnett and Standing, 2001). **Therefore, the current study attempts to take this route by examining consumers' adoption of e-shopping for travel services in one holistic conceptual framework. Building upon this background, the next chapter will present a literature review on consumer behavioural theory and the conceptualisation of the key constructs examined in this study.**

LITERATURE REVIEW

"The secret of business is knowing something that nobody else knows."

– Aristotle Onassis –

–Handbook of 20thCentury Quotations (1984) –

THE THESIS STRUCTURE

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Chapter Three
LITERATURE REVIEW

3.0   Introduction

The previous chapter introduced the overall background of the study, which focuses on online travel marketing. The chapter also highlighted the development of Internet shopping (known as *e-shopping* hereafter) as an innovation in the tourism industry and consumer acceptance of the new shopping medium. Consumer behaviour is a wide subject area and there are various behavioural aspects that affect consumer adoption of e-shopping. Consumer adoption decisions regarding e-shopping are varied as there are obvious differences between physical shopping and the e-shopping setting. Current e-marketing development and initiatives by online travel agents to encourage more e-shopping have also been explored in the previous chapter.

This chapter therefore provides a review and theoretical understanding of the process of diffusion and adoption of an innovation. The chapter also aims to provide a comprehensive review of the phenomenon and evaluate the contributions of existing studies related to e-shopping adoption. In particular, the chapter will present parameters based on past research findings. Various underlying reasons for adoption will be explored with a focus on the adoption of new technology, specifically travel e-shopping. This chapter also analyses the dimensions of consumer cognitive characteristics that are mostly used in identifying innovators in the consumer market. The importance of consumer innovativeness, opinion leadership and consumer involvement as contributing factors to the adoption of travel e-shopping will be the central focus. The relationship of perceived risk and trust with consumers' adoption of e-shopping will also be explored.

As shown in the thesis structure mapping, this chapter is divided into three parts. The first part presents a review of the theoretical background on the diffusion and adoption of innovations; the second presents the technology acceptance model as the basis of the model development and the third presents relevant concepts and theories that are pertinent to the relevant research constructs (i.e. Consumer Innovativeness, Opinion Leadership, Consumer involvement, Perceived Risk and Trust).

Part 1

3.1 Diffusion and Adoption of Innovation

The existing literature on diffusion provides guidelines that are used to describe and understand how innovations and new ideas are adopted within a social system such as a school system. Diffusion theory attempts to describe the process by which an innovation is communicated through a channel over a specified time period among members of a social system (Rogers, 1995). Innovation may consist of a new idea or series of ideas, a new thought process, a new product or any number of inventions, creations or breakthroughs. Diffusion theory relates to the communication process whereby participants create and share information with the goal of reaching a greater mutual understanding. The channel may take several forms, ranging from mass communication to interpersonal communication (Rogers, 1995).

The original diffusion research was done as early as 1903 by the French sociologist Gabriel Tarde, who plotted the original S-shaped diffusion curve. Tarde's (1903) S-shaped curve is of current importance because most innovations have an S-shaped rate of adoption (Rogers, 1995). Although this is where the idea started, it was not until 1943 when sociologists Bryce Ryan and Neal Gross published a study dealing with Iowa farmers. The study focused on the diffusion and adoption of a new type of corn seed to be planted in Iowa fields. This research put the diffusion of innovation on the academic map as well as making researchers realize that it is a communication process. The next development in diffusion theory studies came in 1950, where it was found in various disciplines such as cultural anthropology (Barnett, 1953), medical sociology (Coleman et al., 1957) and industrial economics (Mansfield, 1961). It was then introduced to the field of consumer behaviour studies in the mid 1960s (Frank, et al., 1964; Silk, 1966, Arndt, 1967; Robertson, 1967 and Rogers, 1976). Consequently, many consumer behaviour scholars have contributed to the cumulative development of diffusion theory by proposing new insights and directions for future research in innovation.

Everett Rogers, in a widely cited work (1983), provides a synthesis of over 3000 previous studies of adoption and diffusion. The results of this synthesis include numerous generalizations about innovation diffusion, i.e., the process by which innovations spread through populations of potential adopters. Among the more well-established generalizations are:

i. **Innovation Characteristics**: Innovations possess certain characteristics (i.e., relative advantage, compatibility, complexity, trialability and observability) which, as perceived by adopters, determine the ultimate rate and pattern of adoption (see Section 3.1.1);

ii. **Innovation-Decision Process**: The adoption decision unfolds as a series of stages (flowing from knowledge of the innovation through persuasion, decision, implementation and confirmation) and adopters are predisposed towards different kinds of influence (e.g., mass market communication versus word-of-mouth) at different stages (see Section 3.1.2);

iii. **Category of Adopters**: Some potential adopters are more innovative than others, and can be identified as such by their personal characteristics (i.e. innovators, early adopters, early majority, late majority and laggards) (see Section 3.1.3);

iv. **Diffusion Network**: The actions of certain kinds of individuals (opinion leaders and change agents) can accelerate adoption, especially when potential adopters view such individuals as being similar to themselves (see Section 3.4); and

v. **Diffusion Rate**: The diffusion process usually starts out slowly among pioneering adopters, reaches *take-off* as a growing community of adopters is established and the effects of peer influence kick in, and levels off as the population of potential adopters becomes exhausted, thus leading to an *S-shaped* cumulative adoption curve (see Section 3.1.4).

Most diffusion research conforms to one of two distinctive styles: adopter studies and macro diffusion studies (Attewell, 1992). Adopter studies are primarily concerned with understanding differences in adopter *innovativeness*, where innovativeness is usually defined according to time of adoption (early versus late). Macro diffusion researchers are primarily concerned with characterizing the rate and pattern of adoption of a technology across some community of potential adopters; these researchers typically employ mathematical models of the diffusion process (see Mahajan and Peterson, 1985; Mahajan et al., 1990). **As for the present study, the first style (adopter study) applies, as the general aim is to understand the behaviour of the adopters of travel e-shopping. The following sections explain the diffusion and adoption of innovation at length.**

3.1.1   Innovation Characteristics

When a potential adopter has been introduced to an innovation, they will consider several characteristics before adopting the innovation. Rogers (1995) lists five characteristics of innovations, which can be described as follows:

i. **Relative advantage** describes the degree to which an innovation is perceived as better than that which it supersedes. The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption is likely to be. For example, relative advantages perceived by consumers in the use of travel e-shopping could be in terms of convenience, flexibility, economics, etc.

ii. **Compatibility** is the degree to which an innovation is consistent with the existing values, past experience and needs of the potential adopter. Innovations that are more compatible with the prevalent values and norms of a social system will be adopted more rapidly than an innovation that is incompatible. Incompatibility is often a problem that marketers face when introducing an innovation.

iii. **Complexity** is the degree to which an innovation is perceived as difficult to understand and use. In most cases, new ideas that are simpler to understand will be adopted more quickly. If the complexity of the innovation outweighs the benefit, the innovation is unlikely to be adopted. In the context of e-shopping, people may use it if it does not require advanced computing skills or complicated transaction procedures.

iv. **Trialability** is whether an innovation may be experimented with on a limited basis. New ideas that can be tried on a partial basis will generally be adopted more quickly than innovations that are not divisible. Through trialability, the potential adopter would be able to see the results or benefits of the innovation.

v. **Observability** is the degree to which the results of an innovation are visible to others. Observability is often difficult for online consumers because although the use of a new innovation can be observed, the benefits of the innovation are difficult to observe, especially in the short-run. Thus, word of mouth from surrounding people who have been using e-shopping is important to make it observable in ones eyes. This makes the diffusion network (i.e. opinion leaders) extremely important in building the confidence of potential adopters.

Overall, innovations that are relatively simple in nature, divisible for trial and compatible with previous experience are usually adopted more quickly than innovations that lack these characteristics. Surry and Farquhar (1997) report on a number of studies that confirm the links between relative advantage, complexity and compatibility and the adoption of innovations in education. Tornatzky and Klein (1982) found that relative advantage, compatibility and complexity are the most significant factors in explaining relationships across a broad range of innovations. **Based on this theory, this study will examine whether relative advantage, compatibility and complexity influence the adoption of travel e-shopping through integrating them with the Perceived Usefulness and Perceived Ease-of-Use constructs from the Technology Acceptance Model (TAM), which will be discussed in the following section.**

3.1.2   The Innovation-Decision Process

The innovation-decision process is *"the process through which an individual (or other decision-making unit) passes from first knowledge of an innovation, to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision"* (Rogers, 1995, p.163). Based on this, Rogers (1995) asserts that an individual's decision to adopt an innovation is not an instantaneous act. Rather, it is a process that occurs over time, consisting of a series of actions and decisions. Rogers' model of the *innovation-decision process*, conceptualized as consisting of four stages, is depicted in Figure 3.1.

Figure 3.1:   A Model of Stages in the Innovation-Decision Process
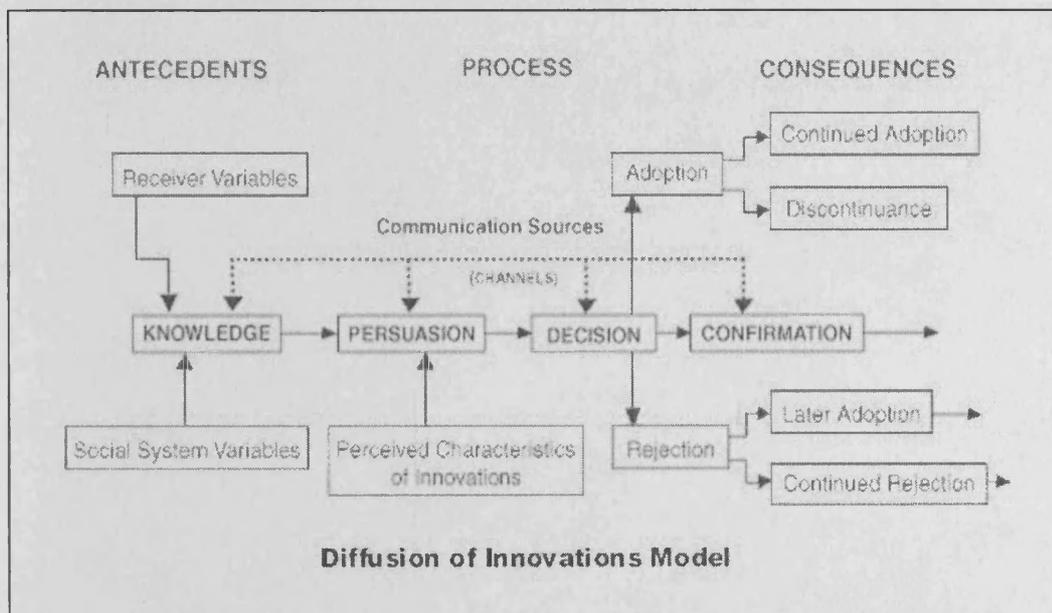
Source: Rogers, 1995

As shown in Figure 3.1, the diffusion of innovation model separates the four functions of knowledge, persuasion, decision and confirmation mentioned earlier. These steps usually take place in sequence, although the sequence need not be completed. Moreover, different kinds of communication processes may be involved in each of these steps, such as individuals' characteristics. Before adopting a new technology, potential adopters must learn about the innovation, be persuaded of its relative advantage, decide to adopt it, implement the innovation, and confirm (reaffirm or reject) the decision to adopt the innovation. This process can be terminated at any stage, as when a number of competing brands enter the market and attract customers' attention simultaneously. Throughout the process, an individual seeks knowledge of and skills which will ultimately affect the adoption process. For a potential adopter, the process will proceed through the various steps and lead to adoption, or alternately, lead to rejection of the innovation.

3.1.3   Category of Adopters

Because individuals in a social system do not all adopt an innovation at the same time, innovativeness is the degree to which an individual is relatively earlier or later in adopting new ideas than other members of the social system (Rogers, 1995). For example, e-shopping is becoming a ubiquitous technology nowadays; people who used the telephone to order products ten years ago have a higher degree of innovativeness than people who started using telephone ordering yesterday.

According to Rogers' (1995) theory, the diffusion of an innovation usually follows a normal, bell-shaped curve when adoption is plotted over time on a frequency basis (see Figure 3.2). If the cumulative number of adopters is plotted, the result is an S-shaped curve (see Figure 3.3). A diffusion curve allows us to compare the innovativeness of an individual or other unit of adoption with other members of a system, usually measured as the number of members in the system to adopt the innovation in a given time period. Mahajan et al. (1990) suggest that the classification model offers several advantages for describing the adoption patterns of individuals in a group such as: (i) it is easy to use, (ii) it offers mutually exclusive and exhaustive standardized categories, by which results can be compared, replicated, and generalized across studies, and (iii) because the underlying distribution is assumed to be normal, continued acceptance of an innovation can be predicted and linked to the adopter categories.

Figure 3.2:   Adopter Categorization on the Basis of Innovativeness
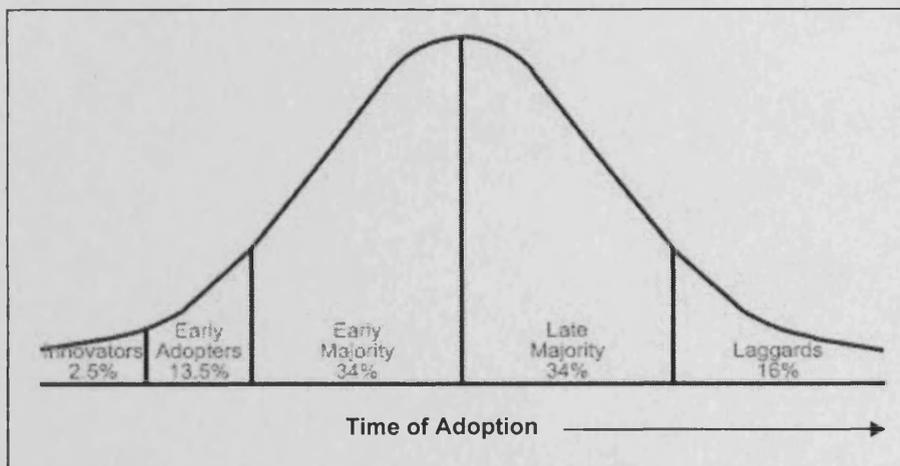
Source: Rogers, 1962

As shown in Figure 3.2, the assignment of individuals to adopter categories is based on an *a priori* scheme using percentages to yield the familiar adopter categories of *innovators, early adopters, early majority, late majority* and finally the *laggards* (Midgley, 1977; Foxall,

1984; Goldsmith and Flynn, 1992; Rogers, 1995). Only a small number of innovators adopt the innovation in the beginning, at 2.5 percent, early adopters accounting for 13.5 percent a short time later, the early majority 34 percent, the late majority 34 percent and after some time finally the laggards make up 16 percent. As a result of this aggregation, a normal distribution develops, which represents the diffusion process. This method of adopter categorization is presently the most widely used in diffusion research (Rogers, 1971).

The bell-curve of the adoption model provides a better understanding of the group of adopters and their behaviour. The curve, which is mainly based on the level of innovativeness, shows that the majority of consumers fall in the category of early majority and late majority. Those groups are distinguished from each other by their unique combination of psychology and demographic profile, which requires a different approach of marketing stimulation to respond to e-shopping adoption. Fischer and Rogers (1995) found some dissimilarity amongst the early and later adopters, as shown in Table 3.1. Details of the adopters' characteristics and background are presented in Appendix 3.1.

Table 3.1: Characteristics of Early vs. Later Adopters

Variables	Innovators/ Early Adopters	Laggards/ Later Adopters
Age	Not significant	Not significant
Education	More Highly Educated	Less Educated
Literate	More Literate	Less Literate
Social Status	Higher	Lower
Social Mobility	Upwardly Mobile	Stable/Stagnant
Size of Enterprise	Corporate	Small/"Mom and Pop"
Measure of Success	Commercial Profit Levels	Sustenance
Attitudes Toward Credit	Borrow Extensively	Avoid Use of Credit
Work Tasks	More specialized	Less specialized
Dogmatism/Closed Beliefs	Less dogmatic	Strongly Held
Empathy Levels	Greater	Lower
Life Philosophy	Individualistic	Fatalistic

Source: Fischer and Rogers, 1995

3.1.4   The Rate of Adoption

The process of diffusion of an innovation depends on consumer innovativeness. The consumer innovativeness theory states that individuals who are predisposed to being innovative will adopt an innovation earlier than those who are less predisposed. As shown in Figure 3.3, the spread of an innovation in a given population, when the cumulative number of adopters is charted on a graph, takes on the form of an S-shaped curve (the red curve on the chart below). The bell-curve (the blue curve on the chart below) shows the typical adoption of an innovation over time when plotted on a frequency basis.

Figure 3.3:   S-Shaped Curve the Cumulative Number of Adopters
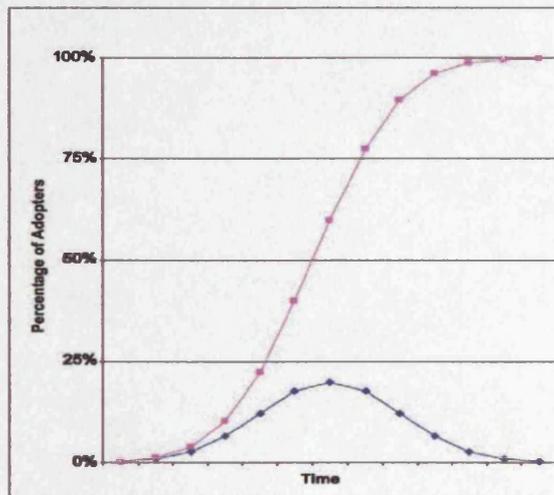
Source: Rogers, 1962

Although there are likely to be slight variations in the shape of these curves when plotting the actual data for an innovation, the S-curve and bell-curve are almost accurate indicators of the future of a technology. These patterns hold true across the introduction of a wide variety of technologies over a span of many decades. Significant deviations from these curves can serve as early warning signs that the typical pattern for the diffusion of an innovation is off track (Rogers, 1995). These early warnings should serve as a cue to look more deeply at what is happening to see what might be causing these deviations.

The S-curve empirical prediction cycle is a well-known indicator used in the technology and innovation environment. The S-curve explains that adoption of an innovation grows slowly at the beginning and will then have a period of rapid growth that will taper off and become stable and eventually decline. As shown in Figure 3.3, the curve of adoption rises slowly at first when there are few adopters, then accelerates to a maximum until half of the individuals in the society have adopted the innovation. It then increases at a slower rate as the few remaining individuals finally adopt it. The average length of the innovation-decision period varies greatly with the innovations and individuals. Rates of adoption depend to a large degree on how certain characteristics of the innovation interact with various aspects of the targeted social system.

After the innovation is adopted by 20 percent of the population, it is virtually unstoppable (Rogers 1983). Word of mouth will always be the most important method of ensuring that an idea gets adopted, while early adopters have always excelled at spreading word of mouth and generating excitement. This implies how vital the early adopters' role is in the diffusion of innovation network.

Rogers (1995) also offers a very scientific approach to understanding the rate of adoption. He suggested five variables which affect the adoption rate of any particular innovation. These include i) innovations characteristics (discussed earlier), ii) type of innovation-decision, iii) communication channels, iv) nature of the social system, and; v) extent of change agents' promotion efforts. Rogers' model could help a researcher to consider the basic forces which affect both adoption rates, and the factors which may lead to the rejection of an innovation. However, in its own simplicity, which may be ironically its strength, it is limited in explaining complex human systems.

3.1.5   The Chasm

The above method of classifying adopters is not symmetrical, nor is it necessary for it to be (see Figure 3.2). From the bell-curve presented earlier, there are three categories to the left of the mean and only two to the right. While it is possible to break the laggard group into early and late laggards, research shows this single group to be fairly homogenous. While innovators and early adopters could be combined, research shows these two groups as having distinctly different characteristics.

This divergence has been highlighted by Moore (1999) in his book *Crossing the Chasm,* which focuses on the marketing of high tech products. As shown in Figure 3.4, Moore discovered the chasm that separates the early adopters and early majority particularly in the hi-tech environment. The gap between the categories is because of two factors: (i) incompatibilities where early adopters do not make good reference for the early majority and (ii) the early majority's concern not to disrupt their behaviour. This implies that good references are critical to buying decisions (Moore, 1999).

Figure 3.4:   The Chasm in the Categories of Adopters
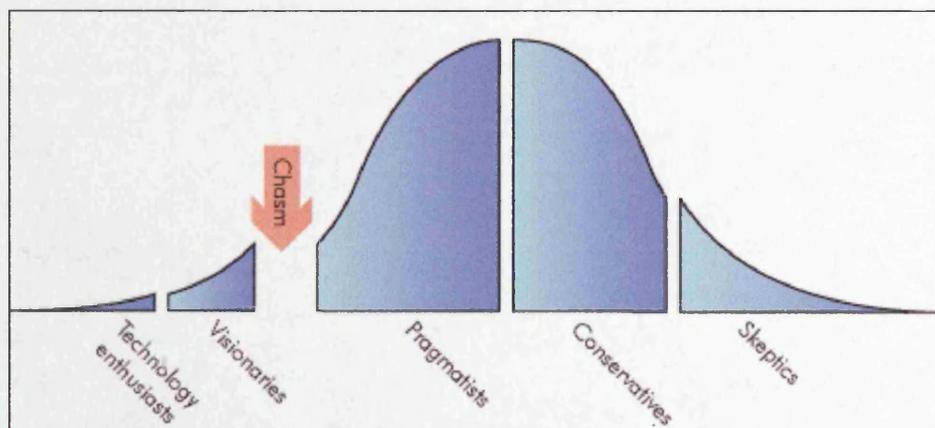
Source: Moore, 1999

Moore's theory is built on the idea that the rate of diffusion in the Technology Adoption Life Cycle curve is not continuous in high tech markets. He borrowed the Diffusion of Innovations theory from Rogers (1962), but argued that there is a chasm between the early adopters of the product (the technology enthusiasts and visionaries) and the early majority (the pragmatists) (see Figure 3.4). This is because *visionaries* and *pragmatists* have very different expectations. Moore exposes those differences and suggests techniques to successfully cross the chasm, which include choosing a target market, understanding the whole product concept, positioning the product, building a marketing strategy, choosing the most appropriate distribution channel and pricing.

For a technological innovation to take off, the first two groups, the innovators and early adopters, are obviously the most important. As they are opinion leaders, they play important roles in diffusion networks. Many writers have used different terms to refer to the same basic dimension of identifying this group, such as gatekeepers (Lewin, 1952), influencers (Emery and Oeser, 1958), key communicators (Lionberger, 1960) etc. In studying the spread of new ideas, it is impossible to ignore opinion leaders, as each adopter category is mainly influenced by individuals of the same or a more innovative adopter category. The opinion leadership concept is discussed in a later section (see Section 3.4).

3.1.6 The Role of Early Adopters in the Adoption of Innovation

Because the early adopters are not too far ahead of the average individual in innovativeness, they serve as role models for many other members of a social system. The early adopter is respected by peers, embodies successful, discrete uses of new ideas, and makes judicious innovation decisions. Rogers (1995) describes early adopters as the 'heart of the diffusion process' because they decrease uncertainty about a new idea by adopting it, and then convey a subjective (i.e., hunch or gut feeling) and/or an objective evaluation of the innovation (i.e., empirical investigation of effectiveness) to peers through interpersonal networks. Early adopters have been found to differ from later adopters across a number of personality variables. Early adopters have more empathy, less dogmatism, a greater ability to deal with abstractions, greater rationality, greater intelligence, a more favourable attitude toward change, a better ability to cope with uncertainty and risk, a more favourable attitude toward science, less fatalism, and higher aspirations for formal education and occupations than do later adopters.

Information has been collected by researchers in an attempt to characterize individuals at the tail end of the distribution as a specific personality type. Rosen and Maguire (1990) conducted a meta-analysis to examine the personality characteristics of computer-phobics,

and found that none of the common beliefs characterizing the computer-phobic (i.e., they are female rather than male, older rather than younger, and possess other types of anxiety) represent reality. However, with regard to the current discussion of early adopters and innovation adoption patterns, it seems likely that computer-phobics represent the tail end of the distribution and are small in number. Rosen and Maguire (1990) state that the computer-phobic group is actually quite small (<10%). **This finding might be extrapolated to the population of Internet shoppers to predict that the number of shoppers who resist e-shopping technology because they are computer-phobic is probably small.**

Many researchers have provided evidence for Rogers' theory by examining the diffusion of various innovations. Dickerson and Gentry (1983) found that early adopters of home computers displayed similar characteristics to adopters of other innovations: they tended to be middle-aged, with higher incomes, more education, opinion leaders and information seekers. They found that early adopters of home computers had more experience with a variety of technical products and services than non-adopters. Consistent with Rogers' proposition that the more compatible the innovation is with the adopter's background, the more likely it is to be adopted, the two experiences which best predicted adoption of the home computer were related to functions (i.e., games, programming) superseded by the home computer.

Ram and Jung (1994) looked beyond diffusion patterns to investigate adopter characteristics with regards to use innovativeness with personal computers. Use innovativeness is the degree to which an adopter uses a previously adopted product to solve a novel consumption problem. Early adopters are found to have higher usage variety than later adopters, which may be a result of their higher involvement with the innovation. In other words, early adopters are likely to be more use innovative and capitalize on the wide variety of uses to which a computer can be put, be more aware of its various features and capabilities, and seek different uses for their computers than do later adopters. Early adopters, like expert computer users, use more options, features and software on their computers, whereas the early and late majority, like novice users, use fewer options to start with. Ram and Jung (1994) suggest that later adopters are more intimidated by new technology and need different kinds of support than early adopters, such as additional training and user-friendly manuals. Another appropriate strategy may be product differentiation through simplification: creating a no-frills computer for the later adopters, rather than trying to make them as diversely accomplished as the early adopters are with the fully loaded model (Ram and Jung, 1994).

These findings have reflected the scope of this study, in that only early adopters of e-shopping were involved in the survey. These respondents may be either the innovators or early adopters, as they are the first to adopt E-shopping. Their buying

behaviour is important to marketers because innovators and early adopters often determine the initial success or failure of new-to-the-world products and influence the rate of diffusion of those innovations (Alpert, 1994). By being the first to implement or try e-shopping, innovators and early adopters perform the role of opinion leaders with regard to the new technology adoption of e-shopping. Section 3.4 discusses the theory of opinion leadership in more detail.

3.1.7 Gaps in Rogers' Theory

A major contribution of diffusion research is the conceptual paradigm that the diffusion model creates, which has relevance for many disciplines (Rogers, 1983). Diffusion research has a pragmatic appeal to many users. Although the diffusion theory is widely used in innovation research, there are some criticisms associated to the theory. Bandura (1977) argued in his discussion of innovations that *"innovations spread at different rates and patterns because they have different requirements for adoption"* (p.53). The adoption rate will depend on whether the necessary requirements are within the means of the individuals willing to adopt. *"Money, skills, or accessory resources"* (p.53) may be requisites for adoption that the individuals lack. *"Social prohibition,"* Bandura stated, *"wields additional influence over what is adopted"* (p.53).

On the other hand, Charters and Pellegrin (1972) found that it would be impossible to establish criteria for adoption or rejection, especially in diffusion, where the innovation was not clearly defined. They found that the 'stages of innovation' created by Rogers applied to imported innovations, but not to those innovations that are defined by local use and the meanings given by the participants. In addition, House (1991) disagreed with Rogers' (1983) theory that diffusion studies' outcomes are generalized across categories of research studies. House (1991) stated that trying to generalize events common to one site that would be common to another and therefore solvable based on results at the first site is worthless because no two days, events or classes represent uniform interactions among common sets of variables.

Other potential limitations of considering the integration of technology using only Rogers' (1995) adopter categories lie in their very nature as summaries of global characteristics and time of adoption. While the innovation-decision process and adopter categories are useful for simplifying the complexity of adoption patterns in a social system by describing the central exemplar or summarization of the early adopter and other categories, these 'defining characteristics' also understate the uniqueness of the individual member. It is worth remembering that early adopters are, at the same time, unique and variable individuals who may resemble each other much less than they resemble the general subgroup characteristics. For example, one can imagine that early adopters possess

various and different levels of ability and skill, beliefs and visions about the value of technology, specific personality traits, levels of risk-taking behaviour, motivations to learn about technology (internal, external, environmental, opportunity), development patterns (self-taught, peer teaching, courses), and have implemented computers in different environments, under different conditions (i.e., vendor, department and self support) and with different expectations. Indeed, an interesting question that warrants further investigation is whether early adoption depends on personality or environment. The next section examines a theory that focuses on consumer personality in influencing adoption behaviour.

3.1.8 Kirton's Adaption-Innovation Theory

Kirton (1976) proposed an Adaption-Innovation Theory focusing on individuals' different cognitive styles of creativity, problem solving and decision-making in the context of organizations. Defining adaption-innovation as a basic dimension of behaviour, Kirton (1980) suggested that everyone can be located on a continuum ranging from an ability to 'do things better' to an ability to 'do things differently'. Cognitive style is defined as *"an individual's way of processing information, his or her preferred approach to decision making and problem solving as distinct from his cognitive level, ability or complexity"* (Foxall, 1994,p.119). These style differences lie on a normally distributed continuum, ranging from high adaption to high innovation. Individuals can be positioned on this continuum based on their personality style, which could be either extreme *innovator* or extreme *adaptor* or somewhere in between.

The Innovator

In the extreme, Foxall and Bhate (1991) characterized innovators as people who exhibit a marked preference for tangential thinking, challenging rules and accepted procedures, and breaking with established methods. Innovators also tend to be impractical, unconventional in their thinking, undisciplined, irreverent toward consensual views, nonconforming, bold in ideation, insensitive to people, risk seeking, flexible, and even abrasive (Bagozzi and Foxall, 1996). Innovators are very good at generating ideas for more radical change, but often fail to get them accepted. They are more likely to change the context of the situation in generating solutions, to create novel solutions, to prefer less structured work environments and to concentrate on effectiveness rather than efficiency (Stewart, 1996).

The Adaptor

In contrast, adaptors could be characterized by order, precision, and concern for accuracy of details, conformity, discipline, efficiency and working within the existing frame of

reference (Foxall and Bhate, 1991). Moreover, adaptors tend to be methodical, prudent, disciplined, conforming (especially to authority), timid in ideation, sensitive to people, risk averse, dogmatic, and even stodgy (Bagozzi and Foxall, 1996). Adaptors tend to be conservative, place great emphasis on precision, efficiency, discipline and attention to norms, and are likely to take a problem as initially defined and develop solutions within currently accepted guidelines (Kirton, 1976). Adaptors are eminently capable of initiating changes that improve the current system, but may fail to see possibilities outside the accepted pattern.

Kirton (1976) points out that both adaptors and innovators create in their own ways, although past literature on creativity has mainly focused on describing innovators (see Rogers, 1962). The difference between adaptors and innovators is that adaptors try to operate more efficiently within existing boundaries, whereas innovators tend to break down existing barriers and often develop new paradigms. The foundation of Kirton's theory (1976) states that:

i. An individual's problem-solving style is stable and thus does not change with age or over time.

ii. Adapters and innovators have different attributes, each of which, depending on the circumstances, could be advantageous or disadvantageous.

iii. One set of these attributes comes naturally to an individual. The opposing set has to be learned and exercised as part of the individual's coping behaviour.

iv. When coping behaviour is no longer needed, there is a marked tendency to return to the preferred style.

v. Forms of coping behaviour include changing circumstances to suit the preferred style or forming part of a team whose assembled preferences cover expected problem situations.

Based on this concept, Kirton (1976) has developed a psychometric instrument for measuring differences in cognitive style related to creativity, problem-solving and decision making, known as Kirton's Adaption-Innovation Inventory (KAI). KAI is one of the most researched, and best-validated, instruments currently available. It appears to be a suitable instrument for further empirical research, given its externally validated links with the personality traits known to consistently, albeit weakly, determine initial adoption (Foxall, 1994). Personality accounts for consistent patterns of individual behaviour based on enduring psychological characteristics (Kassarjian, 1971). It is the pattern of traits and behaviours that makes each individual unique. Personality appears to be related to several aspects of consumer behaviour, including adoption of innovations, information gathering and decision-making (Foxall and Bhate, 1993). Appendix 3.2 summarises the typical

behavioural characteristics of adaptors and innovators as presented in the KAI (Kirton, 1994).

In overall, the basic conception of this diffusion and innovation theory suggests that individual perception of the characteristics of an innovation such as complexity, trialability, compatibility, relative advantage and observability (Rogers, 1995) and innovative personality traits (Midgley and Dowling, 1978; Foxall and Bhate, 1991; Kirton, 1994; Rogers, 1995) can help explain the consumer intention to adopt an innovation. It is important to note that even though most ideas on consumer diffusion research have been discovered by Rogers (1962), some studies point out that there are three 'biases' posited in his work (see Bandura, 1977; Ram and Jung, 1994). In reference to Roger's (1976) works, they commented that: i) there was a lack of process orientation such that research has not tracked the individual's decision process over time; ii) there was a pro-innovation bias, which assumes that all innovation is desirable; and iii) there was a lack of sociometric analysis. Besides, later work questions the relevance of the diffusion model to newer technologies and asserts that organisational learning and know-how have an important part to play in diffusion (Attewell, 1992; Newell et al., 2000). The next section moves to the theory of technology acceptance.

Part 2

3.2   The Technology Acceptance Model

The Technology Acceptance Model (TAM) theory is useful to explain the usage behaviour of Information Technology (IT) (Davis, 1989). The theory was built upon Fishbein and Ajzen's (1975) Theory of Reasoned Action (TRA), which asserts that beliefs could influence attitudes, which lead to intention to use and finally actual usage behaviour (see Chapter 4). The TAM replaces many of the TRA's attitude measures with the two technology acceptance measures: perceived ease-of-use and perceived usefulness (see Figure 3.5). The TAM is a well-known theory that is widely employed in the study of specific behaviours. Conceiving the causal relationship of TAM would help this study to understand the E-shopping adoption behaviour.

Davis (1989) asserted that *Perceived Usefulness* (PU) and *Perceived Ease-of-use* (PEU) represent beliefs finally leading to the actual use of IT. PU is the degree to which a person believes that a particular system would enhance his or her job performance (i.e., by reducing the time to accomplish a task or providing timely information). PEU is the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). As shown in Figure 3.5, two other constructs in the TAM are attitude towards use and behavioural intention to use. Attitude towards use is the user's evaluation of the desirability of employing a particular information systems application. Behavioural intention to use is a measure of the likelihood a person will employ the application (Ajzen and Fishbein, 1980).

Figure 3.5:   The Technology Acceptance Model
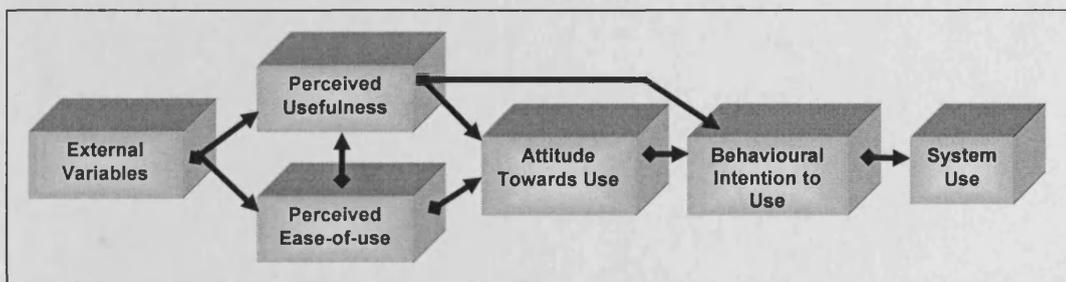
Source: Davis, 1989

Significant empirical research has examined the TAM's overall explanatory power and measurement validity in different settings characterized by constructs, type of IS, etc. Originally investigating e-mail, word processing and graphics software, the TAM's

application has been extended to diverse types of IS, such as database management systems (Szajna, 1996), personal computing (Agarwal et al., 1999), and some other software (Venkatesh, 1999; Venkatesh et al., 2000). Furthermore, several recent studies (Teo et al., 1999; Lederer et al., 2000; Lin and Lu, 2000) have used the TAM to analyse users' behaviour on the Internet, specifically the worldwide web (see Appendix 4.2).

3.2.1   The Principles of the Technology Acceptance Model

Based on the two original papers (Davis et al., 1989 and Davis, 1989), the principles of the TAM may be summarised as follows:

i.   The TAM is a causal model. The Behavioural intention (BI) – System/Actual usage and the PU-BI relationship observed in the studies are very strong. BI is a true predictor of Behaviour. It fully mediates the effects of how other variables affected usage. PU has great impacts on BI over time beyond Attitude. The Attitude-BI relationship changes over time. Its link becomes non-significant when users have used the system for a longer time. Attitude is found not to fully mediate the effect of PU and PEU on behaviour; it only partially mediates these relationships.

ii. PU and PEU correlated significantly with both self-reported current usage and self-predicted future usage. But PU had a greater effect on usage behaviour than PEU when users have used the system for a longer time. Because users seem to process PEU from a self-efficacy perspective in early exposure to the system, they are concerned about the likelihood of succeeding in learning to use the system. As learning progresses and more experience is gained over time, this consideration becomes less important. Users evolve PEU into a more instrumental perspective, considering how much of the relative effort of using the system would influence their performance. The importance of PU in determining usage behaviour should be emphasised. The usefulness of the system may encourage users to surmount the difficulties in their interaction with it. The greatest PEU of the system may not lead to usage of it if it does not do useful work.

iii. The TAM does not include Social Norms (SN) as a determinant of BI, which is an important determinant theorised by TRA and Technology of Planned Behaviour (TPB). SN refers to *"a person's perception that most people who are important to him think he should or should not perform the behaviour in question"* (Fishbein and Ajzen, 1975, p.320). The SN-BI relationship was not observed to be strong in their studies. Davis et al. (1989) explained that SN scales have a very poor psychometric standpoint. SN may not exert any influence on BI, especially when IS applications are fairly personal and individual and usage is voluntary.

iv. Davis and his colleagues claimed that system usage is only a necessary, not a sufficient condition for fulfilling performance improvements due to IS. PU and PEU are the user's subjective appraisal of performance and effort respectively; they cannot be regarded as surrogates to reflect objective phenomena.

v. Finally, Davis and colleagues call for future research to apply the model to other contexts. They point out that practitioners evaluate systems for two purposes. One is to predict acceptability, the other is to diagnose the reasons resulting in lack of acceptance and to take proper measures to improve user acceptance. Therefore, we should pay attention to external variables that influence the user's internal behavioural determinants to computer usage behaviour in order to meet the two evaluation purposes, particularly the second one.

The TAM includes the very important assumption that the behaviour is volitional, which is to say voluntary or at the discretion of the user. The TAM model has been tested in several studies of software use (Davis et al., 1989; Mathieson, 1991; Adams et al., 1992). Previous research on the adoption of innovations has also suggested a major role for PU and PEU (Tornatzky and Klein, 1982; Davis et. al., 1989; Moore and Benbasat, 1991; Venkatesh and Davis, 1996; Gefen, 1997) in new technology adoption. In addition, several researchers have replicated Davis' (1989) original study to provide empirical evidence on the relationships that exist between PU and PEU and system use (Davis et al., 1989; Adams et al., 1992; Hendrickson et al., 1993; Segars and Grover, 1993; Subramanian, 1994; Szajna, 1996). Venkatesh and Davis then extended the original TAM model to explain PU and usage intentions in terms of social influence and cognitive instrumental processes. The extended model, referred to as TAM2, was tested in both voluntary and mandatory settings. The results strongly supported TAM2 (Venkatesh and Davis, 2000).

It has been seen that the work of Davis (1989) has been elaborated on by others who have added further variables to the TAM so as to account for a greater amount of the variance in usage. These modifications and amendments, however, may be considered in the light of an argument offered by Warr (1980) in which he described the 'Christmas tree analogy', whereby the initial structure of a model becomes lost through the addition of 'decorations and refinements' so that it eventually lacks the coherence of a purposeful configuration. Whilst models may provide a better fit with such 'decorations', it is no longer possible to observe the value of the original model.

In this study, it is important to note that, based on empirical evidence, the Attitude construct was left out from the original TAM model because it did not fully mediate the effect of PU on behavioural intention (BI) (Venkatesh, 1999). In addition, several studies (Straub et al., 1995; Gefen and Straub, 1997; Teo et al., 1999; Lederer et al., 2000) have disregarded the effect of PEU and PU on Attitude and/or BI. Instead, they focus on the impact of PEU and/or PU directly on actual system usage. As this study focuses on consumers' actual usage (i.e. actual adoption) of travel e-shopping, the TAM model was adapted by dropping A and BI. This model will be explained in depth in the next Chapter (see Chapter 4).

3.2.2   The Technology Acceptance Model Measures

In the TAM, perceived usefulness (PU) and perceived ease-of-use (PEU) are indicated as fundamental and distinct constructs that influence an individual's decision to use information technology (or systems) (Davis, 1989). Since Davis (1989) introduced a detailed scale and items used to measure PU and PEU, much attention has focused on testing the robustness and validity of the scale. The TAM has been found to be extremely robust and has been replicated using different tasks and tools (Mathieson, 1991; Adams et al., 1992) (see Appendix 4.2). Adams et al. (1992) replicated Davis' (1989) work to demonstrate the validity and reliability of TAM measurement scales. They also extended it to different settings and samples; they demonstrated the internal consistency and replication reliability of the two scales. In a comparison of several models, Mathieson (1991) found that the TAM predicted intention to use a spreadsheet package better than alternative models. Likewise, Hendrickson et al. (1993) found high reliability and good test-retest reliability on the TAM scale, while Szajna (1994) found that the instrument had predictive validity for intent to use, self-reported usage and attitude toward use. In another comparison of theoretical models, Taylor and Todd (1995) found that the TAM provided a good fit to data on the use of a Computing Resource Centre, explaining 34 percent of the variance in behaviour, 52 percent of the variance in intention, and 73 percent of the variance in attitude. The TAM's value lies in its parsimony: the model is strongly grounded in existing psychological theory, yet is easy (and thus, cost-effective) to apply. Furthermore, it makes explicit links to the concept of usability via the ease-of-use construct. This indicates that the paths suggested by the TAM each explained a high degree of variance.

The theoretical constructs of this study were operationalized using validated items from prior research (see Chapter 5, Section 5.5). These items, used to measure PEU and PU, are adapted from the scales used by Davis (1989) and Davis et al. (1989), with appropriate modifications to make them specifically relevant to E-shopping. From the original TAM scale, which consists of a fourteen items, each construct was

carefully selected and adapted to assess PEU with a focus on whether the e-shopping system was easy to learn and PU with a focus on the user's subjective probability that using the system will increase the shoppers' performance in shopping. Individuals were asked to indicate the extent of agreement or disagreement with all statements related to PU and PEU on a five-point Likert-type scale. The details of these items are presented in Chapter 5.

A significant number of researchers have confirmed the validity of the TAM scales and supported their use with different populations of users and different software choices. However, some research suggests that a limitation of the TAM lies in using a self-report behavioural measure for system usage. Although a subjective behavioural measure is generally accepted (e.g., Oliver and Bearden, 1985; Davis et al., 1989; Beck and Ajzen, 1991; Bagozzi et al., 1992; Igbaria et al., 1995), it should be supplemented with other objective measures (Straub et al., 1995). As a result, this study has integrated various scale dimensions in measuring the actual usage of the e-shopping (see Section 5.5). In addition, common method bias has been a recurring concern within IS research in general and in TAM research in particular (Straub et al., 1995, Woszczynski and Whitman, 2004). Although some researchers report that this bias is not as severe as other researchers claim (Crampton and Wagner, 1994), the results of any TAM studies should be interpreted with this potential bias in mind. **Thus, it may be concluded that even though PU and PEU are very powerful constructs in terms of their ability to determine consumer behaviour towards new technology, they should be treated and adapted accordingly to ensure that the responses gathered reflect the actual experience and behaviour of travel e-shopping.**

3.2.3 Perceived Ease-of-use and Perceived Usefulness in E-shopping Adoption

Nowadays, consumers can access thousands of online sites and purchase anything from groceries to cars without travelling to a retail site and spending time at the retail store. Recognizing that customers may want products/services delivered as soon as possible, many e-Commerce sites offer next-day or second-day delivery. Furthermore, e-Commerce consumers can view catalogues of different products/services and read extensive information detailing their features and performance, whereas information acquisition was time-consuming and difficult prior to the outset of the Internet. **Therefore, this study recognizes ease of information searching, ease of booking, ease of using customer service, and overall ease-of-use as consumers' PEU. In addition, PU was measured by the following factors: saving of money, saving of time, vast selection of**

products/services, and overall usefulness. Thus, this study posits PU and PEU as the antecedents of e-shopping adoption.

Perceived Usefulness

PU is the degree to which an individual believes that using a particular system would enhance his or her performance. Davis (1989) found that the relationship between PU and usage was stronger and more consistent than other variables reported in prior studies. Individuals evaluate the consequences of their behaviour in terms of PU and base their choice of behaviour on the desirability of the usefulness (Chau, 1996). Szajna (1996) found a significant relationship between PU and self-report usage in her study of 61 graduate business students. On the other hand, in a study of acceptance of personal computing in small firms, Igbaria et al. (1997) found that PU had a strong direct effect on usage. Usefulness has been confirmed to be the most important factor affecting user acceptance with few exceptions (Sun and Zhang, 2003). **In the present study there is obvious PU of using online shopping compared to offline shopping. The PU of using e-shopping could be measured in terms of financial and time savings, increased flexibility, and greater access to information about legal aspects.**

In a recent study, Lee and Lee (2001) drew attention to the fact that consumers' decisions to adopt Internet services (i.e. Internet shopping or Internet banking) can be categorized in two ways based upon underlying motivations: either *Need-based* or *Skill-based*. In need-based adoption, consumers' underlying motives are the internal forces that drive them to adopt innovation (Peltier and Schribrowsky, 1997). Need-based adoption of e-shopping most likely refers to its convenience in acquiring a product or service. For instance, a businessman or a frequent traveller might be easily engaged to purchase flight tickets online, as it could save them time and effort. The greater the perceived relative advantage (i.e. perceived usefulness) of an innovation, the more rapid will be its rate of adoption (Rogers, 1995). In this aspect, Davis (1989), with his TAM, holds a similar ground, attempting to determine actual intentions and behaviour in relation to adopting a new technology. **Therefore, it is hypothesized that frequent shoppers for travel services will respond positively to travel e-shopping. The PU of travel e-shopping will positively affect non-adopters' future decisions to adopt e-shopping.**

Perceived Ease-of-Use

Past consumer behaviour research has also shown that prior experience and skills with technologies may influence consumers' future adoption of similar technologies (Hirschman, 1980; Dickerson and Gentry, 1983; Dabholkar, 1992). When learning is involved in the adoption of innovations, the probability that an innovation will be adopted is inversely

related to the amount of cognitive effort required for a consumer to understand it (Hirschman, 1980). Evans et al. (2001) found that experienced Internet users are more likely to participate in virtual community activities (i.e. newsgroup, bulletin board, chat rooms); whereas novice users are mostly attracted to the interaction it offers with other people. The familiarity with a product class that is obtained through experience can greatly reduce this cognitive effort (Dickerson and Gentry, 1983).

The basic skills required in navigating through the Internet for information searching and knowledge about Internet terms and jargon are fairly relevant to the skills needed for Internet shopping (i.e. reading information, searching skills or the language used in www). Thus, it is expected that consumers who are well versed with Internet usage are more likely to feel comfortable about e-shopping, and therefore more likely to adopt e-shopping. Furthermore, prior experiences with relevant technologies can reduce consumers' perceived risks related to adopting a new technology. In order for a consumer to adopt e-shopping, he/she needs to be comfortable about doing business involving financial transactions over the Internet and be willing to provide financial information online.

The next part will discuss how individual characteristics might help to explain the adoption of e-shopping in relation to PU and PEU of TAM. Since consumers' concern about the security of transactions is often the major obstacle to the diffusion of electronic technology, successful prior Internet purchase experience will reduce their security concerns and thus will increase their likelihood of adopting e-shopping. According to the TAM, the effect of any external variable on user acceptance operates through central beliefs. Hence, the influence of any uncontrollable environmental factor (e.g. user characteristics, task characteristics) or controllable intervention (e.g. implementation and educational programs, user support) on acceptance behaviour is supposed to be indirect. Consequently, consumers' cognitive constructs (i.e. consumer innovativeness, consumer involvement, perceived risk and trust) are introduced in this study as a source of influence of e-shopping adoption, as discussed in the following sections.

Part 3

3.3 The Consumer Innovativeness Theory

Consumer innovativeness plays a major role in the diffusion and final adoption of new products or technology. Hence, it is not surprising that much research has sought to identify variables useful for segmenting consumers into innovators and later adopters. This review discusses consumer innovativeness in terms of the different theoretical definitions, the conceptualisation, measurement scales and its relevance to the current study.

3.3.1 Consumer Innovativeness Definitions and Concepts

The concept of innovativeness shares a high level of abstraction, as it reflects a generalized, abstract personality trait. Innovativeness is a personality construct that is possessed, to a greater or lesser degree, by all individuals, since everyone will adopt new objects or ideas at some point in his/her life. It is a latent personality trait that predisposes people to buy new products (Midgley and Dowling, 1978; Hirschman, 1980).

However, there is no real consensus on the meaning of innovativeness. It may be describe as the early purchase of new products (Cestre, 1996) or the desire for new experiences (Hirschman, 1980) as well as a tendency to be attracted by new products (Steenkamp et al., 1999). Rogers (1995) defines innovativeness as the degree to which a person's observed time of adoption occurs relatively earlier than that of other people in his/her social system. Additionally, Midgley and Dowling (1978) define consumer innovativeness as consumption of newness, referring to the tendency to buy new products more quickly and more often than other people, while Foxall (1986, 1994, and 2003) views innovativeness as a cognitive style.

The early research by Hurt et al. (1977) views innovativeness as a generalized personality trait reflecting a willingness to change. Midgley and Dowling (1978) suggested that the concept of innovativeness involves communication independence, determined by the degree to which a consumer's decision process is independent of others' personal influence in the social system. Hirschman (1980) and Manning et al. (1995), on the other hand, equated the innovative trait with consumer novelty seeking, which is defined as an inherent desire to seek out novelty and creativity. More recently, Steenkamp et al. (1999) viewed consumer innovativeness as the predisposition to buy new and different products and brands rather than remain with previous choices and consumption patterns. Table 3.2 presents a summary of definitions, concepts and measures related to consumer innovativeness.

Table 3.2: Consumer Innovativeness: Concepts and Measures

Authors	Dimension	Concepts	Measurement
Rogers(1962)	Innovativeness based on time dimensions	Relative advantage Complexity Compatibility Trialability	NA
Leavitt and Walton (1975 & 1988)	Innovativeness Openness of information processing	Open to new experiences and novel stimuli and processing new concepts for own use.	Consists of 2 sets (positive and negative statements) of 24 items on 5-point Likert scales.
Craig and Ginter (1975)	Factor analysis of Leavitt and Walton's items	New is wasteful Social desirability Novelty seeking Risk aversion Style Consciousness Satisfaction with status quo Other directedness	Consists of 25 items on 5-point Likert scale.
Kirton (1976)	Adaption-Innovation	Cognitive style of: Adaptors & Innovators	Consists 32 items on 5-point Likert scale (Kirton's Adaptors-Innovators Inventory)
Jackson (1977)	Risk Taking and Innovation	Tendency to be creative in thought & action	Consists of 20 bipolar scale questions. (Jackson Personality Inventory)
Hurt et al. (1977)	Normally distributed underlying personality	Willingness to change: non innovative behaviour vs. innovative behaviour	Consists of 20 items on 7 point Likert scale (Psychometric properties)
Raju (1980)	Adoptive innovativeness	Tendencies toward exploratory behaviour.	Consists of 5 items on Likert scale.
Price and Ridgeway (1983)	Use innovativeness	Creativity/ curiosity Risk preferences Voluntary simplicity Creative reuse Multiple use potential	Consists of 44 items on 7-point Likert scale
Joseph and Vyas (1984)	Open-processing innovativeness	Tendency towards more open and innovative behaviour	Consists of 24 items on 5-point Likert scale.
Venkatraman and Price (1990)	Cognitive sensory innovativeness	Cognitive innovativeness Sensory innovativeness	Consists of 8 items on Likert scales
Goldsmith and Hofacker (1991)	Domain Specific innovativeness	Tendency to learn and adopt based on specific domain of interest	Consists of 6 items on 5-point Likert scale.
Roehrich (1994)	Hedonist innovativeness and Social innovativeness	An expression of two central needs: exploratory acquisition of products and need for stimulation need for uniqueness	Consists of 6 items on Likert scale.
Le Louarn (1995)	Adoptive innovativeness	Attraction to newness Autonomy in innovative Decision Ability to take risks in trying newness	Consists of 6 items on Likert scale.
Steenkamp et al. (1999)	Exploratory Product Acquisition	Exploratory acquisition of products Exploratory information seeking	Consists of 10 items on Likert scale.
Citrin et al. (2000)	Internet usage& Domain-specific innovativeness	Moderating role of innovativeness in the relationship between general Internet usage and Internet shopping	Consists of 6 items on 5-point Likert scale.
Goldsmith (2001)	Domain Specific innovativeness (Internet context)	Tendency to learn and adopt based on the domain of online buying.	Consists of 6 items on 5-point Likert scale.
Steenkamp and Gielens (2003)	Dispositional innovativeness	Predisposition to buy new products and brands at an early stage.	Consists of 8 items on 5-point Likert scale.

Source: this study

The review of the literature suggests that consumer innovativeness research can be broadly classified into three groups:

i. Measurement of innovativeness (e.g., Midgley and Dowling, 1978; Venkatraman and Price, 1990; Goldsmith , 1990; Goldsmith and Hofacker, 1991; Roehrich, 2004);

ii. Relationship between innovativeness and new product adoption or other behavioural constructs (e.g., Hirschman, 1980; Foxall and Goldsmith, 1988; Foxall, 1988 & 1995; Midgley and Dowling, 1993; Goldsmith et al., 1995; Manning, et al., 1995);

iii. Antecedents of innovativeness, including personal and demographic characteristics (e.g. Venkatraman 1991; Midgley and Dowling, 1993; Steenkamp et al., 1999; Im et al., 2003).

As Innovativeness has been a well-researched topic in both organisational (e.g. Hurley and Hult, 1998) and consumer (e.g. Goldsmith and Flynn, 1992; Goldsmith et al., 1998; Blythe, 1999) studies, several different conceptualisations of innovativeness have been widely used, described as follows:

Actualized innovativeness (AI)

The AI concept has received in-depth empirical attention within the diffusion of innovation framework (Rogers, 1995), and has been of particular interest in innovation diffusion research generally, and information technology (Agarwal and Prasad, 1998) and marketing research (Midgley and Dowling, 1978; Flynn and Goldsmith, 1993) specifically. According to this concept, the 'consumer innovativeness' construct is conceptualized as the degree and speed of adoption of innovation by an individual. Researchers have used various indirect measures of AI, including the number of products owned (e.g., Foxall, 1988 & 1995; Rogers, 1995), ownership of a particular product (e.g. Labay and Kinnear, 1981; Dickerson and Gentry, 1983), purchase intentions (e.g., Holak and Lehmann, 1990), and the relative time of adoption for a particular product (e.g., Rogers and Shoemaker, 1971; Midgley and Dowling, 1993).

Innate innovativeness (II)

Another concept, called 'innate innovativeness' (Hirschman, 1980) or 'innovative predisposition' (Midgley and Dowling, 1993), has been widely accepted in psychology to identify the innovative characteristics of individuals (e.g., Kirton, 1976). Midgley (1977) makes a clear distinction between II (a trait possessed by every human being) and AI (an actual innovative behaviour). Midgley and Dowling (1978) considered II as the degree to which an individual is receptive to new ideas and makes innovation decisions independently of the communicated experience of others. They perceived it as a central

trait, possessed by all individuals to a greater or lesser degree. According to this concept, this trait can be expressed at three different levels of innovative behaviour:

i. **General actualised innovativeness** consists in the purchase of new products in different product categories. This behaviour is supposed to be a direct expression of II.

ii. **Product category specific actualised innovativeness** is the tendency to buy new products in a single product category. This behaviour is a consequence of the interaction between II, which is directed towards newness and interest in the product category. A product category specific innovator may therefore be motivated either by II or by interest in the product category or by both.

iii. **Single product actualised innovativeness** is the early purchase of a new product. It is a joint consequence of II, interest in a product category, communicated experience and situational variables. A single product innovator maybe motivated by any combination of these factors.

Although a number of researchers have used this concept to define and measure innovativeness, the innate approach to innovativeness is limited to the extent that consumer innovation is more domain or product/service specific and less of an individual personality characteristic. A further two types of innovativeness have emerged and are widely used by researchers (Citrin et al., 2000): open processing innovativeness and domain specific innovativeness.

Open Processing Innovativeness (OPI)

Leavitt and Walton (1975 & 1988) define innovativeness as a personality trait representing the degree to which a person is open to new and different experiences, also termed open processing. OPI, operationalised by Joseph and Vyas (1984), focuses on cognitive style, which incorporates an individual's intellectual, perceptual and attitudinal characteristics. OPI influences the ways in which a person reacts to new products and their corresponding sensations, experiences and communications (Citrin et. al., 2000). This concept asserts that an individual who scores high on the trait of open-processing innovation cognitive style will be open to new experiences, and will in fact seek out these experiences. Such individuals will seek out experiences of a meaningful sort as opposed to those that provide only thrills. They will also positively make use of information received, and will be able to recognize the potential application of ideas received from others rather than a direct mechanical application of ideas. Thus, these high innovativeness individuals will be more responsive to communication in a selective and constructive way when the message has a valid relevance to their actions. Results of several studies using this form of consumer

innovativeness lend support to its use as an important predictor of the adoption of innovations (e.g. Craig and Ginter, 1975; Joseph and Vyas, 1984).

Domain Specific Innovativeness (DSI)

As consumer innovation may be more domain or product specific, and less of an individual personality characteristic, there is a limitation on the II and OPI approaches to innovativeness (Citrin et al., 2000). Domain-specific measures of innovativeness have yielded more useful predictions of the adoption of innovations by consumers (e.g. Hirschman, 1980; Goldsmith and Hofacker, 1991). They define DSI as the tendency to learn about innovations (new products) within a specific domain of interest. For them, this construct mediates both conceptually and empirically the relationship between innate and specific innovative behaviours. Figure 3.6 represents the concept of DSI suggested by Goldsmith and Hofacker (1991).

Figure 3.6: The Domain Specific Innovativeness Hierarchy
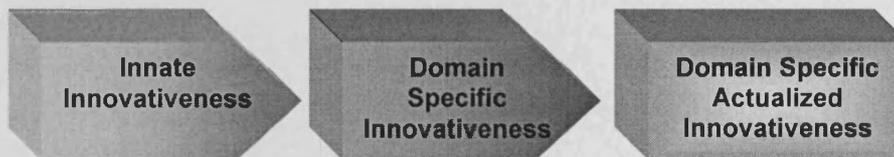
Source: Goldsmith and Hofacker, 1991.

As DSI reflects the tendency to discover and adopt innovations within a specific domain of interest, it taps a deeper construct of innovativeness more specific to an area of interest. This implies that consumers who are likely to adopt the latest new product in one field may be laggards in another (Goldsmith et al., 1998). It is therefore thought that a DSI measure of innovation may also be an indicator of the adoption of e-shopping.

Citrin et al. (2000) adopted the two measures of innovativeness to explain consumers' adoption of e-shopping. Their findings indicate that Internet usage and DSI have a direct influence on the adoption of e-shopping. They also reported that DSI is a moderator of the relationship between Internet usage and the adoption of e-shopping; however, general innovativeness does not influence the use of the Internet for purchasing.

In conclusion, it could be interpreted from the innovativeness conceptualizations that people high in innovativeness might not always be among the first to actually adopt an innovation because of these intervening factors. This notion of consumer innovativeness has gained wide acceptance in consumer marketing research in terms of explaining the adoption of innovations (e.g. Hurt et al., 1977; Midgley and

Dowling, 1978 & 1993; Hirschman, 1980; Gatignon and Robertson, 1985; Venkatraman and Price, 1990; Steenkamp et al., 1999). Consequently, in this study, the DSI theory is used to measure consumers' innovativeness in shopping via the Internet, as it provides more insight in terms of the dimensionality, validity and reliability of the DSI scale.

3.3.2   Consumer Innovativeness Measures

Since the mid 1970s, numerous scales have been created for the purpose of measuring consumer innovativeness. Most of these scales are different in terms of their theoretical premise and internal structure. Therefore, some of the scales lack homogeneity (Roehrich, 2004). The most representative scales are presented below in two groups: (i) life innovativeness scales (i.e. the ability to introduce newness into one's life), (ii) adoptive innovativeness scales (Roehrich, 2004).

Life Innovativeness Scales

This category of scales includes the scales developed by Leavitt and Walton (1975), Kirton's (1976) and Hurt-Joseph-Cook (1977). They are named 'life innovativeness' because their scopes go beyond the sole adoption of new products. For instance, Leavitt and Walton define innovativeness as a trait 'that underlies the intelligent, creative, selective use of communication for solving problems'. Kirton defines *innovators* as those who tend to search for new problems and original solutions within an organization. Finally, Hurt and colleagues define innovativeness as 'change willingness'. Moreover, two of these scales have a 'creativity' dimension, which indicates that the innovativeness concept they measure is not limited to newness consumption.

Little research has been undertaken on the Leavitt and Walton (see Bearden et al., 1993) and Hurt-Joseph-Cook (see Pallister and Foxall, 1998) scales. Kirton's Innovators-Adaptors Inventory (KAI) has raised far greater interest in the research community (see Mudd, 1995; Foxall, 1995; Bagozzi and Foxall, 1996).

Some general conclusions that can be drawn from these studies are:
  i. These scales tap innovativeness at a high level: items describe attraction to any kind of newness, not only new product attraction;
 ii. These scales are multidimensional: 7 dimensions for Leavitt and Walton's 24-item scale, three for Kirton's 32-item inventory, four (or five) for Hurt-Joseph-Cook's 20-item scale.
iii. These scales have good psychometric properties, except for predictive validity: only weak correlations, if any, have been found with new product purchase.

iv. These scales are very close to each other and measure very similar concepts. However, Roehrich (2004) suggested that these scales tap inherent novelty-seeking more than specific innovativeness, based on their poor predictive validity.

Adoptive Innovativeness Scales

The scales presented under this category were particularly designed to measure innovativeness as a tendency to buy new products. The scales in this category mostly identify consumer innovativeness by the adoption or non-adoption of an innovation and the time of adoption. The commonly used scales include:

i. Goldsmith and Hofacker's Scale (1991)

These authors designed a scale to measures domain-specific innovativeness (DSI). They perceive this construct as an intermediary between innate innovativeness and innovative behaviour, which is empirically, but moderately, validated by Goldsmith et al. (1995). The DSI scale is a 6-item scale where the items are scored on a 5-point disagree-agree format. Item scores are summed to form an overall DSI score, and the DSI is considered unidimensional. Scores on the DSI scale range from 6 to 30. Higher scores reflect domain innovators. The cut-off point between domain innovators and adaptors is established by subtracting the lowest score from the highest score recorded from a study. In this study, 4 items from the DSI scale were adapted to the context of e-shopping (Goldsmith at al., 1995) as presented in a later chapter (see Chapter 5).

ii. Baumgartner and Steenkamp's Scale (1996)

These authors distinguish two dimensions of exploratory buying behaviour: (i) exploratory acquisition of products (EAP) and (ii) exploratory information seeking (EIS). For them, consumers who are high on EAP enjoy taking chances in buying unfamiliar products; are willing to try out new and innovative products; value variety in making product choices, and change their purchase behaviour in an effort to attain stimulating consumption experiences. This EAP consists of a 10-item scale and is highly correlated with such constructs as stimulation need and sensory sensation seeking. Its predictive validity is confirmed by correlations with variety seeking behaviour and innovative behaviour. Steenkamp and Van Trijp (1996) confirm a significant correlation between EAP and the possession of 46 new products.

3.3.3   Domain Specific Innovativeness and E-shopping Adoption

A review of the above theory and literature on innovativeness highlights possible links between consumer innovativeness and the adoption of travel e-shopping, which is of interest to this study. As innovativeness is the personality trait that predisposes consumers to adopt new ideas or technology, both sensory and cognitive innovativeness are expected to have significant positive relationships with the adoption of travel e-shopping. This is in line with some empirical studies that emphasized the relationship between new-product adoption behaviour and consumer innovativeness as a generalized predisposition (e.g., Midgley and Dowling, 1978; Foxall, 1988 & 1995; Goldsmith et al., 1995; Manning et al., 1995).

In the context of electronic shopping adoption, Goldsmith et al. (1995) found that a global measure of consumer innovativeness is weakly related to adoption behaviour; however, DSI is strongly associated with the adoption of fashion and electronic innovations. Citrin et al. (2000) supported this result with their findings that DSI, along with Internet usage, directly influences consumers' adoption behaviour with regard to e-shopping. Another recent study by Limayem et al. (2000) found that consumer innovativeness (measured by the innovativeness scale developed by Hurt et al., 1977) influences e-shopping behaviour both directly and indirectly through the consumer's attitude and intentions.

Overall, the empirical literature addressing the relationship between consumer innovativeness and new-product adoption behaviour is inconsistent across product categories that exhibit different levels of consumer involvement and specificity. **Thus it is proposed that consumer innovativeness will have a great impact on the adoption of e-shopping, particularly for travel services.**

The scale developed by Goldsmith and Hofacker (1991) was adapted to measure domain-specific innovativeness for shopping travel services via the Internet. It was chosen due to its applicability in the research context. As suggested by Vijayasarathy and Jones (2000), applied researchers could use the DSI in surveys to identify Internet innovators, those consumers most likely to buy online, and develop descriptions of their personal characteristics, attitudes, behaviours, and reactions to marketing efforts. Besides, DSI can be used in a variety of research settings and has proved to be valid and reliable across different product domains and cultures (e.g. Goldsmith et al., 1998; Goldsmith, 2001). Moreover, the DSI scale is chosen because it is a short, reliable and valid self-report scale developed to measure how innovative a consumer is for a specific product field (Goldsmith and Hofacker, 1991).

The scale consists of 6 items in 5-point Likert scale format, anchored with 'strongly disagree' and 'strongly agree'. As the scale can be used interchangeably, and is considered applicable to a wide number of product domains, the questions were modified in the context of travel e-shopping so that a high score reflected higher levels of innovativeness. The mean response to these six items provides a DSI score. The modified version of the DSI used in this study is presented in a later chapter (see Chapter 5).

3.4 Opinion Leadership Theory

As discussed in the previous section, early adopters play an important role in the diffusion of an innovation because of their role as opinion leaders in communication channels and social systems. Innovators and early adopters have the greatest degree of opinion leadership in most systems; therefore, potential adopters look to them for advice and information about the innovation. The interpersonal communications between early adopters and the public, among friends and family, are equally as essential as mass communications in bringing about new technology adoption. Diffusion takes place within the context of structures of social relationships based upon power, norms and public acceptability, when the opinions of some persons carry more weight than those of others.

Domain specific innovativeness has been shown to be positively correlated with opinion leadership for, time spent with, and money spent on new products across several product categories (Goldsmith et al., 1998 and Goldsmith, 2001). Thus, similar to innovativeness, it is expected that there is a strong relationship between opinion leadership and adoption behaviour. This section visits the theory, concepts, measures and the relevance of opinion leadership to e-shopping adoption.

3.4.1 Opinion Leadership: Definitions and Concepts

Opinion Leadership (OL) is defined as the degree to which an individual is able to informally influence other individuals' attitudes or overt behaviour in a desired way with relative frequency (Rogers and Shoemaker, 1971). It is a type of informal leadership, rather than being a function of the individual's formal position or status in the system. Since its discovery in the 1940s, the theory of OL has provided some understanding of how information and ideas are disseminated through both mass media and interpersonal communication.

Many studies conducted since the beginning of OL have confirmed that opinion leaders do indeed exist and influence others, particularly in consumer product purchase decisions. These opinion leaders often provide information and advice to followers; therefore, they are more likely to influence purchasing behaviour through word-of-mouth communication

(Assael, 1987). Although identification of opinion leaders themselves is a difficult task, research has been successful in identifying some general traits (or characteristics) of opinion leaders (Assael, 1987). These opinion leaders could be identified based on specific characteristics (i.e. product-related characteristics; demographic characteristics and personality characteristics). Ely (1990), for example, divides opinion leaders in his study into two distinct groups: (i) Those who possess a vision about the benefits of the innovation and take steps to promote its acceptance; and (ii) Individuals in government and higher education who are strong advocates for the innovation and serve as promoters of the innovation.

Littlejohn (1996) categorises opinion leaders into two types: (i) *monomorphic* and (ii) *polymorphic*. Monomorphic opinion leaders tend to be influential on one topic only, while polymorphic opinion leaders are influential on a variety of topics. Most opinion leaders are monomorphic, however, and even truly polymorphic leaders tend to focus their expertise on one broad domain, such as fashion or politics (Solomon, 1994). As systems become more modern, monomorphic leadership is incrementally more predominant, especially because as technology becomes more complex, a division of labour and specialization of roles results, which in turn leads to different sets of opinion leaders for different issues (Littlejohn, 1996).

Besides that, numerous studies have been carried out to identify potential opinion leaders, learn of the characteristics distinguishing them from their followers, and understand how they exert their personal influence to change the opinions and behaviour of the masses. Katz and Lazarsfeld (1955) found opinion leaders to be distributed across all levels of social status (high, middle and low), with tendencies toward a horizontal, rather than vertical, flow of communication. They also concluded that opinion leaders were concentrated among large-family wives (position in the life-cycle). This group tended to have more experience and involvement with daily marketing issues (Weimann, 1994).

3.4.2   Opinion Leadership Influence and Measures

In terms of demographic characteristics, opinion leaders tend to be similar to their followers in terms of education, social status and beliefs (Assael, 1987). These similarities provide the opinion leader with *referent power*, and although opinion leaders may be slightly higher in terms of status and educational attainment, they are rarely in a different social class (Solomon, 1994).

In terms of personality characteristics, opinion leaders tend to possess the following social attributes: *i) Gregariousness; ii) Social activity; iii) Centrality in social networks; iv) Social*

accessibility; v) Social recognition; vi) Credibility (Weimann, 1994,p.89). A study by Chan and Misra (1990) concluded that opinion leaders have more knowledge or familiarity and involvement with product class; they are more innovative and more confident of their role as influencers (leaders) and appear to be less dogmatic than non-leaders.

Based on product-related characteristics, Assael (1987) points out that opinion leaders typically are i) More knowledgeable about the product category, ii) More involved in the product category, iii) More active in receiving communications about the product from personal resources, and iv) More likely to read magazines and other print media relevant to their area of product interest. Rogers (1995) indicates that opinion leaders have greater exposure to mass media or external communication than their followers and thus are more cosmopolite. They listen more, read more, and view more media - relevant to a specific domain - than their followers (Bettinghaus, 1980).

Nevertheless, profiling opinion leaders across areas and domains is an extremely difficult task, if not impossible (Weimann, 1994). Myers and Robertson (1972) studied the dimensions of opinion leadership across twelve different domains, and found that the correlations of demographic variables (age, income, educational level, time at present address, ages of children, and number living at home) with opinion leadership in each topic area were low. The study concluded that opinion leaders could not accurately be identified by demographic variables alone.

There are four main methods of measuring opinion leadership and diffusion network links, which have been used in past research:

i.   Sociometric method (e.g. asking respondents from whom they sought, or might seek, information or advice about an innovation)

ii. Informants' ratings method (e.g. asking essential people about the communication networks in a system)

iii. Self-designating techniques (e.g. asking respondents to indicate the tendency for others to regard them as influential)

iv. Observations (e.g. an investigator identifies and records the communication behaviour in a system)

Previous early studies of the two-step flow model of mass communication (Lazarsfeld et al., 1948; Lazarsfeld and Menzel, 1963) have shown that people are more influenced by direct contact with other people than by mass media. The tested hypothesis of the two-step flow model is that *"the first step, from sources to opinion leaders, is mainly a transfer of information, whereas the second step, from opinion leaders to their followers, also involves*

the spread of influence" (Rogers, 1983, p.273). This implies that the influence of mass media is not as powerful or direct as was once thought. Mass media creates knowledge, while interpersonal networks persuade individuals to adopt or reject an innovation.

As Murray (1991) suggests, when the true levels of risk are unclear to users (e.g. in the context of non face-to-face shopping), recommendations from other members of a social system, such as friends, relatives and neighbours, have an important effect on consumer participation. This is supported by Roger (1983, p.5), who argues that information about an innovation *"is communicated through certain channels over time among the members of a social system"*.

Following from these arguments, opinion leadership has been adopted as one of the antecedents of travel e-shopping. Recognizing the importance of the roles of opinion leaders in influencing adoption decisions, this study proposes that opinion leadership is one of the antecedents of the adoption of travel e-shopping.

3.5 The Consumer Involvement Theory

Consumers' willingness to engage in new behaviour requires a considerable level of involvement. Involvement has both cognitive-affective and behavioural components that are closely related (Houston and Rothschild, 1978). Involvement as an affective-cognitive construct generally refers to the perceived personal relevance of an object or event to a consumer (Zaichkowsky, 1985). It expresses the intensity of motivation as experienced by an individual (Ratchford and Vaughn, 1989). Mittal and Myung-Soo (1989) made broad distinctions among three sources of involvement: (i) utilitarian goals such as the perceived use-value of an object, (ii) hedonic goals, and (iii) symbolic and sign goals (see Laurent and Kapferer, 1985). Utilitarian goals and extrinsic goals both refer to an individual's striving for valued outcomes, whereas hedonic goals are achieved by using or acting upon objects, which in and of itself is considered intrinsically rewarding. Involvement may also stem from the symbolic meaning or sign value of an object vis-à-vis relevant others, which helps project a positive image for others to view. Thus, involvement is induced not only by a pure person-object relation but also by its relationship to relevant others. This section presents the Consumer involvement theory, concepts, measurement and its relationship to consumer adoption behaviour.

3.5.1   Consumer Involvement: Definitions and Concepts

The concept of involvement began in social psychology with Sherif and Cantil's (1947) study of ego-involvement. The extensive pursuit of this concept, however, was led by Krugman's study (1965) in low involvement learning. Krugman's distinction between high and low involvement learning and his proposal that both types of consumer involvement can be associated with effective marketing communication have received great interest among marketers and researchers. Since then, studies on consumer involvement using this dichotomy have emerged as a major stream of consumer research (Zaichkowsky, 1985), followed by various efforts to further differentiate the concept (Houston and Rothschild, 1978; Celsi and Olson, 1988; Andrews et al., 1990) (see Table 3.3). Consequently, with these numerous conceptualisations and measurements, it has also become difficult to form a consensus on the concept of involvement (Zaichkowsky, 1985).

Extant literature reveals that involvement has many meanings in communication and persuasion research (Perse, 1990a). To some extent, this may be due to the use of the term in varied research domains in social psychology, political science, consumer behaviour, advertising, public relations and communications (Salmon, 1986). Involvement has been perceived as residing in the individual, the object or the situation (Salmon, 1986). It has also been defined as an enduring individual trait such as a personality characteristic (Kassarjian, 1980); personal relevance of the object to the individual (Zaichkowsky, 1985); or a pre-existing /enduring relationship between object and individual (Houston and Rothschild, 1978; Andrews et al., 1990). Other definitions of involvement, mostly in the psychology and consumer behaviour literature, emphasize the state or process-like qualities of the construct: a temporary condition of high/low involvement that occurs at a point of time when individuals are exposed to stimuli/messages (Krugman, 1965) that may facilitate cognitive information processing (Petty and Cacioppo, 1981).

Table 3.3 summarises the various definitions of involvement that have been used previously by consumer involvement studies. This implies that there is no straightforward approach to measuring consumer involvement. However, Foxall and Pallister (1998) suggest a common definition of involvement, which can be identified as personal relevance (motivations), activation of the motivational state, and arousal or triggering of the motivational state.

Table 3.3: Conceptual Definitions of Consumer Involvement

Authors	Definitions/Conceptualisation
Krugman (1965, 1968)	Involvement as the number of personal links per minute between the person and the observed object or message
Mitchell (1979) Bloch (1982)	Involvement is an internal state variable that indicates the amount of arousal, interest or drive evoked by a particular stimulus or situation.
Engel & Blackwell (1982) Greenwald & Leavitt (1984) Celsi & Olson (1988)	Involvement is a reflection of the extent of personal relevance of the decision to the individual in terms of his/her basic values, goal and self-concept.
Rothschild (1984)	Involvement is an internal state variable that indicates the amount of arousal, interest or drive invoked by a particular stimulus or situation
Laurent & Kapferer (1985)	Involvement is an internal state affecting decision processing, triggered by a number of situations, including personal relevance, or psycho-social, functional or financial risk.
Zaichkowsky (1985)	Involvement as an affective-cognitive construct generally refers to the perceived personal relevance of an object or event to a consumer
Bloch (1986) Goldsmith et al. (1998)	Involvement has been conceptualised as the interest, enthusiasm and excitement that consumers manifest towards a product category
Mittal (1989)	Involvement is a motivational state of mind of a person with regard to an objective or activity. It reveal itself as the level of interest in that object or activity
Foxall (1990)	Involvement is a relationship between individual characteristics, such as personal goals and experience of the consequences of buying and consuming and the stimuli presented by the communication, product or situation.
Engel et al. (1995)	Involvement is an elaborate procedure or extended problem solving.
Lockshin et al. (1997)	Suggested three dimensions of involvement: product involvement, brand involvement and purchase involvement.

Source: this study

3.5.2 Consumer Involvement Measures

Corresponding to the various definitions of consumer involvement above, a wide variety of involvement measurement have been introduced and utilised by previous studies (see Table 3.4). In general, they can be differentiated based on:

i. Unidimensionality vs. Multidimensionality (e.g. Zaichkowsky's PII scale (1985) and Laurent and Kapferer's CIP (1985))

ii. Semantic differential vs. Likert scale (e.g. Jain and Srinivasan's NIP scale (1990) and Slama Tashchian's PI scale (1985))

iii. Object specific vs. Context free (e.g. Tigert et al. (1976) and Mittal's PDI (1989))

In addition, Rothschild (1979) introduced somewhat rough, but still applicable measures to identifying involvement situations. They are:

i. Price: the most commonly used intuitive measure of involvement. Expensive products are highly involving, while lower priced products are less involving.

ii. Length of purchase cycle: this measure also helps to define involvement in a broad sense, since a longer duration between purchases implies a greater commitment and higher involvement.

iii. Similarity of choice: if the choices available to a purchaser were quite similar to one another, then there would be no need to become involved with a particular one, since several selections would lead to the same outcome.

iv. Perceived risk: the amount of uncertainty and/or the possible consequences of the decision would involve the individual to a greater degree. Each of four measures provides some insight into the vague construct referred to as involvement, but none can individually describe, explain or predict involvement.

Amongst the involvement scales shown in Table 3.4, the CIP, PDI and PII scales have been either adopted or adapted widely, particularly CIP and PII (Pallister and Foxall, 1998). However, there were a lot of arguments and revisions of each of the scales before they were established as reliable involvement measures.

Table 3.4:   Summary of Consumer Involvement Scales

Authors	Topic and Dimension		Types of Scale
Tigert et al. (1976)	Fashion Involvement (11 fashions) ■ Innovativeness and time of purchase ■ Interpersonal communication ■ Interest ■ Knowledge ability ■ Awareness & reaction of fashion change trends		5 responses scale
Bloch (1981)	Product Involvement (Car) ■ Enjoyment ■ Readiness to communicate about car to others ■ Interest in car racing ■ Self expression through one's car ■ Attachment to one's car ■ Interest in car		17 items on 6-point Likert scale
Slama and Tashchian (1985)	Consumer Purchase Involvement (Residences census)		33 items on 6-point Likert scale Purchasing Involvement (PI)
Laurent and Kapferer (1985)	General Involvement (14 tangible products): ■ Product importance ■ Risk importance	■ Risk probability ■ Pleasure ■ Sign value	19 items on 5-point Likert scale Consumer Involvement Profile (CIP)
Zaichkowsky (1985)	General Involvement (watches, shoes, cameras, wine, cereals, coffee, laundry & TV)		20 items on 7-point Semantic scale Purchase Involvement (PII)
Zaichkowsky (1985)	Advertising Involvement (print, radio & TV)		10 items on 7-point Semantic scale -Purchase Involvement in Advertisement scale (PIIA)
McQuarrie and Munson (1987)	General Involvement (12 objects) ■ Perceived importance ■ Pleasure	■ Sign value ■ Risk	14 items on 7-point Semantic scale Revised Purchase Involvement scale (RPII)
Mittal and Lee (1988)	Product & Brand Choice Involvement (Beer) ■ Perceived importance	■ Sign value ■ Hedonic value ■ Perceived risk	24 items on 7-point Likert scale
Higie and Feick (1989)	Enduring Involvement (PC, golf & needlework) ■ Hedonic ■ Self impression		12 items on 7-point Semantic scale adopted from PII and RPII
Mittal and Lee (1989)	Product & Brand Decision Involvement (VCR & Jeans) ■ Product sign ■ Product hedonic	■ Product utility ■ Brand sign ■ Brand hedonic value ■ Brand risk	24 items on 7-point Likert scale
Mittal (1989)	Purchase Decision Involvement (15 tangible products)		5 items on 7-point Likert scale Purchase Decision Involvement (PDI)
Jain and Srinivasan (1990)	General Involvement (10 tangible products) ■ Relevance/ importance	■ Interest/ Pleasure ■ Risk importance ■ Sign/ symbolic value ■ Risk probability	49 items on Semantic Scale -New Involvement Profile (NIP)
O'Cass (2000)	Consumer Involvement (fashion clothing) ■ Product involvement ■ Advertising involvement ■ Purchase decision involvement ■ Consumption involvement		42 items on 6-point Likert scale

Source: this study

Consumer Involvement Profile (CIP)

Laurent and Kapferer (1985) advocated the use of the word *involvement* with a qualifier, implying that the term alone is too imprecise to specify the nature of the relationship between a consumer and a product category. They define involvement as a multi-dimensional construct and argue that a consumer's involvement cannot be expressed in a single score, because the type of involvement is as important as its level. They further identified five antecedent conditions of involvement:

   i. Perceived importance of the product;

   ii. The perceived importance of negative consequences in case of poor choice (perceived risk);

   iii. The perceived probability of making such a mistake (perceived risk);

   iv. The symbolic or sign value attributed by the consumer to the product;

   v. The hedonic value of the product.

Based on the above antecedents, Laurent and Kapferer (1985) developed the Consumer Involvement Profile (CIP) scale with 19 items. However, Mittal and Lee (1989) argued that the CIP scale did not acknowledge the distinction between product involvement and purchase-decision involvement. Knox et al. (1994) supported the above criticisms of the Kapferer and Laurent model, as put forward by Mittal and Lee, and further added that:

   i. The perceived *product importance* measured by Laurent and Kapferer as a source of involvement is, in fact, a part-measure of enduring involvement itself, and

   ii. It is artificial not to explicitly distinguish between sources and forms of involvement

On top of that, the CIP scale has also been further tested by other authors such as Mittal and Lee (1988); Mittal (1989); Celuch and Evans (1989); Jain and Srinivasan (1990); Aldlaigan and Buttle (2001). Mittal and Lee (1989), who based their conceptual framework on that of Bloch and Richins (1983), held that consumers perceive products and brands to be different in the above set of goals, hence leading to a more involved decision process. Since Laurent and Kapferer's (1985) unsuccessful attempt to address brands, Mittal and Lee's framework measures this factor explicitly by rearranging Laurent and Kapferer's facets into a *"theoretically more accurate causal network"* (p.369). Consequently, various concerns have been raised, mostly related to the scale dimension and the context of the study (Mittal, 1989; Jain and Srinivasan, 1990).

Purchase Decision Involvement (PDI)

The distinction between product involvement and purchase involvement was not addressed in involvement studies until it was highlighted by Mittal (1989). In opposition to the CIP, Mittal

(1989) determined that consumers require goals in order to be involved in a purchase. The aim was to provide a shaper focus and to introduce a simple scale of purchase decision involvement (PDI). They classify the goals into three groups, *Hedonic, Sign Value* and *Utilitarian,* resulting in two antecedent sources for each goal. Mittal and Lee argue that product involvement occurs when a product satisfies hedonic, sign value or utilitarian goals, and purchase involvement (or brand decision involvement) occurs when consumers perceive that brands differ in their risk, hedonic and sign value.

Based on these concepts, Mittal (1989) developed the Purchase Decision Involvement (PDI) scale. Purchase decision involvement (PDI) is defined as the degree of *"interest and concern that the consumer brings to bear upon a purchase-decision task"* (Mittal, 1989,p.150). PDI is closely related to situational involvement and Mittal (1989) points out that the concept has three main criteria, namely:

i. It offers the advantage of situational differences in terms of whether the purchase took place in an emergency or regular repeat purchase manner.

ii. It concerns the consumer's mindset, for instance the customer's view of what the right or wrong choice would mean to him or her.

iii. Its scale measures mind-set rather than response behaviour.

Thus, an individual may not use information processing: (1) if he or she already has information, (2) if information has been acquired from a salesperson or (3) if it is just a regular repeat purchase. It is interesting to note that the PDI scale maintains that even a routine purchase should not score low. In other words, a routine purchase process is not equivalent to a low involvement purchase.

The PDI original scale consists of 5 items but was later reduced to 4 items measured on 7-point scales anchored by bipolar phrases. The items scores are summed and then divided by 4 to form an average PDI score. Goldsmith and Emmert (1991) suggested that the PDI scale has the advantages of short length, convenience and validity. Foxall and Pallister (1998) reported that PDI was not clearly unidimensional after adding another 3 items to the PDI scale (leading to a 7-item scale) to examine financial services. They further suggested there might be two dimensions in the PDI scale, namely the rational and emotional factors.

Personal Involvement Inventory (PII & PIIA)

Zaichkowsky (1985), who comprehends involvement as a person's perceived relevance of the object based on inherent needs, values and interests, attempted to construct a scale for the measurement of this variable that was context-free and applicable over the full range of pertinent stimuli, namely products, purchase decisions and advertisements. Zaichkowsky

(1985) stated that involvement is an affective-cognitive construct that generally refers to the perceived personal relevance of an object or event to a consumer. Affective involvement is demonstrated by emotional reactions to the message, for example fear, happiness disgust, liking, etc. (Perse, 1990b), while cognitive involvement is expressed by paying attention, recognizing aspects of the content as familiar or unfamiliar, and relating the content to prior knowledge. Zaichkowsky further proposed three major domains of involvement, which are (i) advertising domain, (ii) product class domain, (iii) purchasing decision domain. The involvement literature indicates that these three domains are related to each other in the sense of their personal relevance. Personal relevance is claimed to be a focal theme of involvement research, since involvement definitions lack consistency (Arora, 1982; Greenwald and Leavitt, 1984; Zaichkowsky, 1986).

In order to determine whether a specific group of consumers is indeed highly involved in some product category, Zaichkowsky used a singular quantitative indicator or single item measure of involvement. The rigorous construction and scientific testing of the inventory resulted in a 20-item scale, the Personal Involvement Inventory (PII), of high reliability (Cronbach alpha scores of 0.97 are not unusual) and validity. Items in the PII are related to three assumed areas that affect a person's involvement level, which are as follows:

i. Personal: inherent interests, values or needs that motivate the person toward the object.

ii. Physical: characteristics of an object that cause differentiation and increased interest.

iii. Situational: something that temporarily increases the relevance of, or interest toward the object.

The PII appears to capture one major factor, relevance, across all product categories; some other minor factors were not considered further, since the major factor accounted for some 70 per cent of the variance. The application of the 20-item PII is simply based on 20 pairs of adjectives, scored on a semantic differential scale. The use of a single score is to represent the degree of involvement, so that products can be easily compared on a continuum. The scale has been widely used by other researchers (e.g. Celsi and Olson, 1988; Celuch and Evans, 1989). Zaichkowsky (1985) suggests that the PII scale is applicable over a full range of products, purchase decisions and advertisements.

However, there have been criticisms of the PII scales, which basically stand on two views. Park and McClung (1985) argued that some scale items were not applicable to involvement in advertising and that the scale was too long for repeated testing. Meanwhile, Vaughn (1986) and McQuarrie and Munson (1987) found the scale incapable of embracing the various types of involvement conceptualised by some researchers. In addition to these views that the PII inventory was too simple and too long, McQuarrie and Munson (1987) were

concerned with the potential attitudinal error of the PII, as the required independence of involvement and attitudinal measures was not clear cut in the case of the PII.

Zaichkowsky (1987) subsequently revised the PII to 10 items, the Revised Personal Involvement Inventory (RPII) (see Chapter 5, Table 5.7). Several items that had invited the charge of attitudinal error in the first version were omitted (e.g. beneficial-not beneficial; undesirable-desirable). The revised scale, having apparently overcome the criticisms of the detractors, has been used in a large number of additional studies (e.g. McQuarrie and Munson, 1987; Goldsmith and Emmert, 1991; Foxall and Bhate, 1993) whose authors expressed satisfaction with the reliability and predictive validity of the new scale and its capacity to discriminate across products and situations. Foxall and Pallister (1998) also confirmed that the RPII exhibits high levels of reliability as well convergent and discriminant validity in their study of financial services.

Zaichkowsky's (1987) vs. Mittal's (1989)

Comparison of Zaichkowsky's (1987) and Mittal's (1989) definitions of involvement reveals little obvious difference. Both definitions are context free and, while Zaichkowsky (1987) emphasises relevance, needs, values and interests, Mittal (1989) stresses interest and concern. It could be argued that the concern dimension expressed by Mittal (1989) comprises the relevance, needs and values expressed by Zaichkowsky (1987). Hence the key difference between the definitions is that Mittal's (1989) PDI is specifically developed to measure purchase decision involvement, whereas in order to tap this aspect, users of Zaichkowsky's (1987) RPII must specify purchase decisions as the context of the measuring instrument. The measurement scales should, therefore, show high convergent validity.

Drawing from the description and arguments presented, the PII is considered the most appropriate involvement scale to be employed in the current study. It is anticipated that the involvement in the process of shopping via the Internet medium is very much relevant to measurement of whether affective-cognitive involvement does influence adoption decisions with regard to e-shopping. As stated by Zaichkowsky (1985), this measure could reflect the perceived personal relevance of an object or event to a consumer.

3.5.3   Consumer Involvement and E-shopping Adoption

Compared to traditional media such as television or radio, the processing of message content on the web is largely determined by consumers' level of involvement or predisposed intention to become exposed. For example, consumers seeking information regarding accommodation in London are likely to visit UK travel-related websites and not US travel

websites or flight booking websites. In addition, with thousands of sites that offer information on London accommodation, online consumers must choose which ones to visit. This can be accomplished based on their previous experience with certain sites or search engines (e.g., Yahoo, Google, Excite, etc.) both of which require that consumers know how to search for the sites that are most likely to satisfy their needs at the time. All of these activities have the prerequisites of consumers possessing the necessary skills to navigate through the virtual environment.

Since purchasing travel services over the Internet is a relatively new activity, customers must go through two types of cognitive evaluation before they engage in the actual purchasing decision. Firstly, they need to determine whether the product category (i.e. a vacation product sold over the Internet) is personally relevant to them. Secondly, consumers have to evaluate whether their involvement in purchasing behaviour is stimulated or hindered by various motivational factors. As these two types of involvement are related but different states of being, it would be interesting to know if any of the above factors would be significant in predicting consumer vacation purchasing behaviour over the Internet.

Thus, it is proposed in this study that innovative consumer behaviour on the Internet refers to both the affective-cognitive aspects of involvement. When a person claims to be involved in something, s/he is not merely thinking about it, but is actively doing something with it.   This research therefore aims to incorporate cognitive-affective involvement into a conceptualization of consumer involvement in e-shopping. Some research, such as that on fashion involvement (Tigert et al., 1976) and leisure research (Kim and Scott, 1997), reflects a similar approach.

3.6   The Perceived Risk Theory

Perceived risk is a central construct in many consumer behaviour studies. Quite often, such risk can be the driving determinant of a consumer's choice between brands or even whether or not to purchase (Bettman 1973; Kaplan et al., 1974; Campbell and Goodstein 2001). Research indicates that as the level of perceived risk increases, consumers tend to become more risk-averse (Bettman 1973). As the use of new shopping methods increases, it is conceivable that some consumers would perceive higher levels of risk than others. Those perceiving lower levels of risk would be more likely to try shopping via the Internet. In order to test this concept more closely, this section presents the related literature on perceived risk, including definitions, conceptualsation, measurement and the relationship of risk with other factors in consumer adoption behaviour.

3.6.1 Perceived Risk: Definitions and Concepts

The concept of risk was first highlighted by Bauer (1960) through his study on risk-taking in consumer behaviour . Bauer (1960) stated that:

> "consumer behaviour involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approaching certainty, and some of which at least are likely to be unpleasant"

Since Bauer's proposition, valuable empirical researches have attempted to identify various types of perceived risk in the context of consumers' purchase behaviour. More than 30 years later, the perceived risk concept has come through infancy to adulthood and has established a tradition of research unparalleled in consumer behaviour research (Mitchell, 1999). Perceived risk continues to receive attention from both practitioners (Farquhar, 1994) and academics (Grewal et al., 1994) and has been applied in a wide range of areas including intercultural comparisons (Alden et al., 1994), food technology (Frewer et al., 1998), apparel catalogue shopping (Jasper and Ouellette, 1994) and banking (Kim and Prabhakar, 2000). In the consumer behaviour literature, perceived risk has been defined and conceptualised in many ways, as displayed in Table 3.5.

Table 3.5: Perceived Risk Definition and Concept

Authors	Definition/ Concepts
Bauer (1960)	Strongly emphasised that he was concerned only with subjective (perceived) risk and not 'real world' (objective) risk
Kogan and Wallach (1964)	Risk consist of two different facets: ■ A 'chance' aspect where the focus is on probability ■ A 'danger' aspect where the emphasis is on severity of negative consequences
Cox and Rich. (1964)	Referred to perceived risk as the overall amount of uncertainty perceived by a consumer in a particular purchase situation.
Cunningham (1967) Cox (1967)	Conceptualised perceived risk in two components: ■ The amount that would be lost if the consequences of an act were not favourable ■ The individual's subjective feeling of certainty that the consequences will be unfavourable
Jacoby and Kaplan (1972)	Classified consumers' perceived risk into the following five types of risk: physical, psychological, social, financial, and performance (functional).
Bettman (1973) Dunn et al. (1986)	Described two classes of Product category risk: ■ Inherent risk ■ Handled risk
Peter and Ryan (1976)	Held the position that risk and uncertainty are clearly not the same.
Sjoberg (1980)	Noted three broad classes of meaning: ■ Those concerned with the probability of negative events ■ Those concerned with these negative events themselves measured in some suitable way ■ Those concerned with a joint function of probability and consequences (most often their product)
Stone and Winter (1987)	Defined perceived risk as a subjectively-determined expectation of loss; the greater the probability of this loss, the greater the risk thought to exist for an individual.
Cooper et al. (1988)	Provided evidence for the necessity to differentiate between differences in risk perception and risk attitude
Dowling and Staelin (1994)	Categorised risk in two aspects: ■ Product category risk ■ Product-specific risk
Chaudhuri (1998)	Stated that low levels of perceived risk in products are related to high levels of positive feelings during consumption
Sweeney et al. (1999)	Defined perceived risk as the subjective expectation of a loss and included financial and performance risk, which can be viewed as an expectation of a future cost.
Lee et al. (2001)	Defined perceived risk as the uncertainty perceived by a consumer in a particular purchase situation.
Knight (2002)	Defined and separated the concepts of risk and uncertainty. Proposed that 'risk' has a known probability while 'uncertainty' exists when knowledge of a precise probability is lacking.

Source: this study

The large number of studies in the area of perceived risk has unfortunately not led to a clear conceptualization of this complex concept. Indeed, Fischoff (1985) stresses that if one were to read ten different articles on perceived risk; one should not be surprised to see the risk described in ten different ways. However, the original conceptualization suggested by Bauer (1960) structures perceived risk in a way that is mainly accepted by the scientific community. This stream recognizes that perceived risk is based on two components (uncertainty and negative consequences, referred to by certain authors as loss and importance of the loss) and that it is a multi-faceted concept (involving physical, psychological, social, financial, functional and time related risk). Based on these components researchers have proposed that the consequences from a purchase can be divided into various types of loss, namely performance, physical, financial, psychosocial, time etc. (see Table 3.6).

Table 3.6:   Dimensions of Perceived Risk Associated with Shopping Behaviour

Types	Definition	Cited Study
Functional Risk	The risk that the product will not perform as expected	Jacoby and Kaplan (1972)
Performance Risk	The risk that the product will not meet one's standards of quality	Roselius (1971); Dunn et al. (1986)
Physical Risk	The risk to a consumer's or others' safety in using the product	Jacoby and Kaplan (1972)
Psychological Risk	The risk that a poor product choice will harm the consumer's ego	Jacoby and Kaplan (1972); Roselius (1971)
Social Risk	The risk that a product choice may result in embarrassment before one's family or friends; the risk that others will think less of you as a result of a poor product choice	Jacoby and Kaplan (1972); Roselius (1971); Dunn et al. (1986)
Financial Risk	The risk that the product will not be worth the financial price	Jacoby and Kaplan (1972); Roselius (1971); Dunn et al. (1986)

Source: Tsiros & Heilman (2005)

The influence of the different types of risk on shopping behaviour has been shown to vary depending on the brands considered or the categories of interest. For example, Dunn et al. (1986) studied the influence of perceived risk on the preference for generic, store, and national packaged goods brands and found that social risk plays a relatively minor role relative to financial and performance risks. Instead, Murphy and Enis (1986) classified product categories based on consumers' shopping effort and price risk dimensions. They report that convenience goods, which include produce and other grocery staples, tend to be the lowest, relative to preference, shopping and specialty goods, in terms of the effect of effort and risk on shopping behaviour.

Conclusively, many studies have supported the idea that most purchasing decisions are made based on two main factors related to risk evaluations: (i) the likelihood of the loss occurring and (ii) the consequences or importance of the loss should it occur (Bettman, 1973; Peter and Tarpey, 1975; Havlena and DeSarbo, 1990). Thus, this study draws upon these findings from the risk literature to build a perceived risk construct that is related to functional and financial risk.

3.6.2 Perceived Risk and E-shopping Adoption

Consumer perceptions of e-commerce security appear to be very negative (Jarupunphol and Mitchell, 2001). Evans et al. (2001), in their study of virtual communities' interaction, found that many Internet users did not feel comfortable giving personal information over the Internet, and having to register personal details with a site discouraged them from participating in online activities. Many Internet users are currently unwilling to participate in e-shopping because of fears about the compromise of their financial information when submitted to shopping web sites.

Adoption of a new technology like e-shopping will usually embody risks because there are uncertainties. The perceived risks associated with e-shopping can be categorised into two aspects: (1) perceived risk with the product or service delivered (2) perceived risk in the context of online transaction.

Perceived risk with product or services delivered encompasses (McKnight et al., 2000):

i. **Performance risk**, that is, whether the products/services delivered by the sellers/providers live up to customers' expectations

ii. **Economic losses**, that is, monetary losses when the products/services delivered fall short of customers' expectations

iii. **Personal risk**, that is, the possible consequence of legal liability if customers accept the terms and conditions stated

Compared with other offline shopping transactions, online transactions are perceived to have a greater degree of security and privacy risk because a greater extent of exchange of personal information in the online environment is involved. The perceived risks in the context of online transaction encompass:

i. **Privacy risk** - risk of disclosure of personal information by the web host to a third party when personal information is stored on unsecured databases;

ii. **Information risk** - risk of trusting the information provided by legal providers on their website that may be incomplete or distorted; and the security concerns over personal information or data, including credit card information, during transmission of data

iii. **Economic risk** - monetary losses due to customer fraud or theft of credit card information

Rose et al. (1999) state that if people conduct transactions with dishonest merchants or if sensitive information is stored on unsecured databases, security threats exist even where data is perfectly secure in transmission. In addition, several studies in the context of online transaction (Hoffman et al., 1999; Swaminathan et al., 1999; Jarvenpaa et al., 2000) recommend that consumers' confidence or trust will be improved by increasing the transparency of the transaction process, keeping to a minimum the personal data required from the consumer, and making clear the legal status of any information provided. Swaminathan et al. (1999) assert that consumers evaluate online vendors before they conduct online transactions and therefore vendors' characteristics play an important role in facilitating these transactions. As a result, it is suggested that the fundamental requirements for e-commerce or online transactions should satisfy the following security issues: authentication, authorization, availability, confidentiality, data integrity, non-repudiation and selective application services (Bhimani, 1996).

According to the Theory of Planned Behaviour (see Chapter 4), perceived risk may reduce customers' perceived behavioural control over uncertainties and will have a negative impact on their behavioural intentions. In contrast, if the perceived risk associated with online transactions is reduced and customers have more behavioural control over the online environment, they are more willing to transact (Pavlou, 2001). On the other hand, trust and risk are closely interrelated. Trust in the web provider mitigates consumers' perceptions of the risks involved in the transaction. The higher the perception of risk, the higher the trust needed to facilitate the transaction (Jarvenpaa et al., 1999). The perceived risk and trust relationship will be described further in Section 3.7.3.

3.7   Trust Theory

In e-shopping, trust is key to everything marketers do, from getting consumers to give out their credit card numbers or sign up for newsletters to creating long, satisfying, loyal relationships with customers. Trust is probably the most important element in e-commerce, as it builds relationships and expectations, reduces anxiety, paves the way for acceptance of new products and clears communication pathways between companies and their customers. Trust also influences the level of risk perceived by individual consumers. Thus it is expected that trust would affect consumer adoption behaviour as well as other related variables. This section first provides a review of the definition and concept of trust, and then discusses the measurement of trust and its relationship with other variables related to this study.

3.7.1   Trust: Definitions and Concepts

The definition and conceptualization of trust has been a source of considerable debate. Trust is defined as the willingness to rely on an exchange partner in whom one has confidence, and as confidence that the other party is reliable, honest, consistent, competent, fair, responsible, helpful and altruistic (Swaminathan et. al., 1999). Trust has often been defined as a belief regarding the characteristics of the company to be trusted (Kumar et al., 1995; Mayer et al., 1995; Fung and Lee, 1999; Menon et al., 1999; Stewart, 1999). Those characteristics usually include the company's integrity, benevolence and competence (Mayer et al., 1995), all of which comprise the company's trustworthiness, as perceived by the customer.

Researchers in Marketing have posited that trust reduces transaction costs and ensures that any inequities that might occur can be resolved (Ganesan, 1994). Trust is an important ingredient in any trade transaction (Ratnasingham, 1998). The concept of trust has received attention in different social science literatures: psychology, sociology, political sciences, economics, anthropology, history and socio-biology (Lewicki and Bunker, 1996). Trust acts as the mitigating factor for the risk assumed by one party on the party in trade. Therefore, as trust increases, the risk is either reduced or become manageable by the trusting party. The existence of trust also allows reduction of the transaction cost in a trade (Ratnasingham, 1998), as other costly means to reduce or manage the risk would be unnecessary.

Empirical studies confirm that trust beliefs are correlated with future interaction intentions (Doney and Cannon, 1997; Ramsey and Sohi, 1997). Trust is particularly important in the context of intermediation relationships in both traditional markets and e-commerce markets. Trust has a positive influence on relationship outcomes in e-commerce as well (Hoffman et al., 1999; Jarvenpaa et al., 2000). For example, the likelihood of Internet purchasing is influenced by the amount of consumer trust regarding the delivery of goods and use of personal information (Hoffman et al., 1999). Other research also shows that the fairness of a company's website with respect to information privacy is a significant factor in building trust and in ensuring the continuation of the relationship with that company (Culnan and Armstrong, 1999).

3.7.2   Trust Measures

In terms of trust measurement, a more recent article has reported the development and testing of a complex, multidisciplinary and multidimensional measure of trust in web-based commerce (McKnight et al., 1998 and 2002). The model includes four constructs that measure customer trust: disposition to trust (i.e. trust propensity); institution-based trust, (i.e.

trusting the infrastructure) and institutions of e-commerce; trusting beliefs, (i.e. specific beliefs about the web company's integrity), benevolence and competence; and trusting intentions (i.e. intention to engage in trust-related behaviours with the company such as making a purchase). According to the study, each of the four constructs is measured well by a number of sub-constructs and the results partly support a model of web trust with the four constructs. Another recent study by Bhattacherjee (2002) proposed a three-dimensional instrument to measure trust in online firms, which has been empirically validated. The scale measures customers' perceptions regarding the company's ability, benevolence and integrity. After testing the validity of the instrument, the author ended up with a 7-item scale, which he tested in two field studies in online retail and online banking.

3.7.3   Trust and E-shopping Adoption

Consumer trust toward websites is a determinant factor for e-commerce (Ratnasingham, 1998; Hoffman et. al., 1999; Jarvenpaa et. al., 1999; Swaminathan et. al., 1999; Friedman et. al., 2000; Lee and Turban, 2001; Tan and Thoen, 2001). All transaction activities require the element of trust. In particular, trust is a vital antecedent in the online environment, which involves more uncertainties and risks than traditional shopping.. The impersonal and open nature of the electronic infrastructure brings about uncertainties and risks that necessitate a greater degree of trust in making transactions. The notion of trust has been regarded as the main barrier to the widespread diffusion of e-commerce among consumers, since there is a fundamental lack of faith in the web. Many customers do not trust web providers with their personal information; nor are they willing to engage in exchanges with them (McKnight et al., 2000; George, 2002). Moreover, a consumer cannot physically check the quality of a product before making a purchase, or monitor the safety and security of sensitive personal and financial information sent through the Internet to a party whose behaviours and motives may be hard to predict (Lee and Turban, 2001). Basically, online customers' trust towards e-shopping transaction is two-tiered:

i. **Trust in service providers**; for example, trust in the ability of service providers to deliver quality services, honouring their commitments; trust in the integrity of service providers to preserve privacy and maintain a proper use of personal and financial information; and

ii. **Trust in the Internet as a transaction medium**; for example, the security and authenticity of transaction, the reliability of reservation systems and payment systems.

One recent example is of a generic model of trust that consists of two basic components: i) trust in the other party and ii) trust in the control mechanisms used to ensure successful transactions (Tan and Thoen, 2001). Empirical research on online trust has also produced varied results. In one of the earlier empirical studies, using data collected in 1997, researchers found that two important reasons why customers do not buy online are lack of

trust in the security of e-shopping and concern about privacy regarding personal information collected online (Hoffman et al., 1999).

There were also two studies by Jarvenpaa et al. (2000), which examined antecedents and consequences of online trust. The first examined the effect of perceived company size and perceived company reputation on the level of trust for that online company by customers (Jarvenpaa et al., 2000). The results indicated that reputation has a large positive association with trust and size has a smaller positive association that may depend on the type of company (the effect was significant for travel sites but not for bookstores). Trust also had a positive effect on willingness to buy through its positive relationship with attitude towards the company and its negative relationship with customer risk perception. The second study was a cross-cultural validation of the first (Jarvenpaa et al., 1999). The authors performed the same study in Australia, Israel and Finland. The results showed no strong cultural differences in the model for trust, indicating support for the generalisability of the results. This implies that the online sellers' success is determined in part by whether consumers trust the sellers and products they cannot see or touch, and electronic systems with which they have no previous experience. Subsequently, the greater the perceived trustworthiness of sellers' web-sites, the greater the likelihood of online buying intention. In this connection, the trust construct influences users' e-shopping adoption both directly and indirectly through perceived risk.

In general, most of the empirical studies on trust that have been published to date have dealt with only a few factors that can affect customers' trust in the web. The models tested have been limited to either a small number of potential antecedents or have concentrated on measuring the construct of trust alone. Thus, this study proposes that Internet shoppers' trust is an antecedent of e-shopping adoption. The trust measure of this study has been built from models that have already been tested in the past (see Jarvenpaa et al., 2000; Lee and Turban, 2001).

3.7.4 The Relationship between Perceived Risk and Trust

In marketing literature, much attention has been given to the relationship between risk and trust (Doney and Cannon, 1997; Morgan and Hunt, 1994; Kim and Prabhakar, 2000; Pavlou, 2003). Doney and Cannon (1997) discuss that the trust literature suggests that trusting parties must be vulnerable to some extent for trust to become operational, i.e. decision outcomes must be uncertain and important to the trustor (Schlenker et al., 1973; Moorman et al., 1992). Mayer et al. (1995, p.726) suggested that in order to understand how trust influences trusting behaviour, *"we should separate trust from other situational factors that necessitate trust (i.e., perceived risk)"*. Then, they proposed that the level of trust is

compared to the perceived risk in a situation. If the level of trust surpasses the threshold of perceived risk, then the trustor will engage in trusting behaviour. If the level of perceived risk is greater than the level of trust, the trustor will not engage in the trusting behaviour. Meanwhile, assessing the risk in a situation involves evaluating the benefits versus the costs. Although risk has usually been discussed in the context of negative consequences, Mayer et al. (1995) argued that, *"both the possible gains and the potential losses will affect the interpretation of the risk involved"* (p.725). Thus, it can be expected that perceived risk, as a result of the evaluation of gains and losses, would influence the adoption behaviour.

A study that incorporated trust and risk in the TAM to predict customers' acceptance of e-commerce (Pavlou, 2002) found that trust was a significant predictor of customers' intention to transact with a web site, both directly and through its negative effect on perceived risk. Pavlou also found that the perceived reputation of the company and past transactions with it were significant determinants of customer trust online. In addition, Cheung and Lee (2000) developed and validated a measurement instrument for a research model that describes the factors that influence trust in e-shopping and its impact on perceived risk. The model was partially tested by Lee and Turban (2001), who found that the perceived integrity of an Internet merchant is positively related to customer trust in e-shopping. That positive effect, however, is moderated by the trust propensity of the customer.

From these discussions, we can see that perceived risk is a necessary antecedent for trust to be operative and that an outcome of trust building is a reduction in the perceived risk of the transaction or relationship. As relationships develop and trust builds, risk will decrease.

3.8   Conclusion

Given the interest in the understanding of consumer purchase behaviour in the online market, there are good reasons for this study to choose the literature on the diffusion of innovations as its starting point. The theoretical background of diffusion of innovation has shed some light on the understanding of the relevant theories on which previous research has been based. However, it is important to note that even though most ideas on consumer diffusion research have been discovered using the Diffusion of Innovation theory, there are also potential biases in the framework. Thus, other related theories should be considered in the development of the research constructs, mainly the Technology Acceptance Model.

These theories will guide this research for the following reasons; firstly, they have widely applied and referred to in studies related to innovation or the acceptance of new ideas. This will provide a strong foundation for this study, as consumer behavioural theory in the context of the Internet is still in its infancy. Secondly, despite being extensively used, there is still room for further improvement, extension and integration with other emerging constructs (i.e. perceive ease-of-use, usefulness, consumer involvement, consumer innovativeness, opinion leadership, perceived risk and trust) in the effort to understand the antecedence of the adoption of new technology. Thirdly, since these theories have been producing significant results that show high reliability and validity in the traditional research setting, it is interesting to test the applicability of the theories in a new setting. The theories might produce unexpected results in the e-shopping context.

Consumers' cognitive and affective characteristics are apparently important variables in identifying the diffusion of an innovation. In particular, consumer innovativeness, opinion leadership, consumer involvement, risk perception and trust are seen as direct influences on consumers' adoption of an innovation such as e-shopping. Since in the TAM, the acceptance of new technology depends on whether consumers perceive it as useful and easy to use, it is expected that these personal variables might have a greater influence on perceptions. Therefore, based on the literature reviewed presented in this chapter, the following chapter introduces the research framework, which is designed to examine the factors that influence the adoption of e-shopping. Specific hypotheses are then formulated for testing using the proposed research framework.

CONCEPTUAL FRAMEWORK

"Retail is detail."

— James Gulliver —
(Former Chairman, Argyll Group plc.)
— Your Magazine (11 September 1988) —

THE THESIS STRUCTURE

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Research Framework

Research Hypotheses
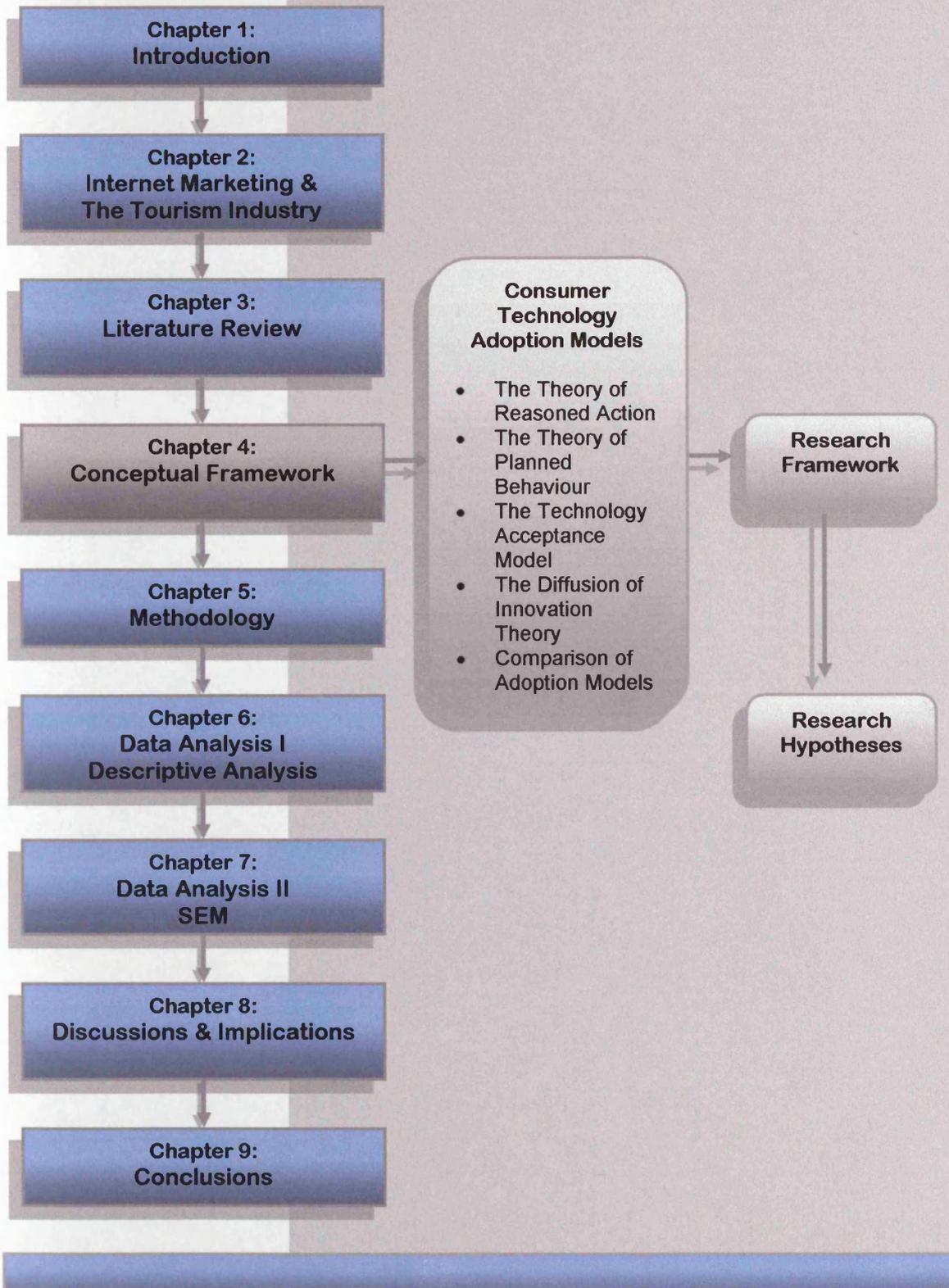
Chapter Four
CONCEPTUAL FRAMEWORK

4.0   Introduction

The preceding chapter has identified the need to study the antecedents of consumer adoption of new technology, especially in the online context. From the literature review, it appears that there are relatively few studies that have examined Internet shopping adoption amongst consumers, particularly for intangible products (e.g. travel services, banking, education etc.) that are marketed online. This study, therefore, is an attempt to fill the gap in the literature as well as to respond to suggestions made by previous researchers to further explore consumer adoption decisions in a different context, and to investigate interrelationships among some constructs that might have been overlooked by previous studies. To achieve these objectives, a conceptual model has been developed to explain the antecedents of consumer adoption of Internet shopping for travel services (known as 'travel e-shopping' hereafter). From this, a number of hypotheses are defined in order to explore the relationships among the constructs pertinent to this study.

The first section of this chapter covers the theoretical premises of related consumer technology adoption models and theories. The second section introduces the development of the conceptual framework, which briefly describes each component of the conceptual model developed and their roles and effects on the adoption of travel e-shopping. This is followed by the proposed hypotheses and the arguments supporting the hypothesised linkages depicted in the conceptual model. Finally a discussion and the conclusions of the chapter are presented.

4.1   Consumer Technology Adoption Models

Many studies have presented various models to explain user acceptance of IT, ranging from computers (Igbaria and Parasuraman, 1989; Igbaria et al., 1996), to electronic commerce (Bhattacherjee, 2001), email (Gefen and Straub, 1997; Karahanna and Limayem, 2000), and the Internet (Cheung et al., 2000). These models mostly involve measuring perceptions about the technology, individual and environmental characteristics and investigating their correlation with attitudes, behavioural intentions toward use and actual usage metrics. The most frequently used models include the Technology Acceptance Model (Bellman et al., 1999; Jiang et al., 2000; Venkatesh and Davis, 2000; Teo, 2001), the Theory of Planned Behaviour (Shim et al., 2001; Venkatesh and Brown, 2001; Reimenschneider and McKinney, 2002), and the Diffusion of Innovation Theory (Citrin et al., 2000; Goldsmith, 2001).

Amongst these models, the two most popular approaches applied in studies of the adoption of new technology are the Technology Acceptance Model, which is commonly used to explain beliefs regarding perceived ease-of-use and perceived usefulness to influence the adoption intention (Davis et al., 1989), and the Diffusion of Innovation Theory (Rogers, 1983), which posits that relative advantage, compatibility, complexity, trialability and observability, together with innovativeness and external influences (see Appendix 4.1), affect individual adoption. The following section describes the related theories and models in more detail.

4.1.1   The Theory of Reasoned Action

One intention model that has proved successful in predicting and explaining consciously intended behaviours across a wide variety of domains is the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). The foundation of the TRA conceptual framework is based on the distinction between beliefs, attitudes, intentions and behaviours.

As presented in Figure 4.1, the TRA posits that actual behaviour is determined by behavioural intention, which is a function of individual attitudes towards behaviour and subjective norms. The TRA assumes that individuals are usually rational and will consider the implications of their actions before making a decision as to whether or not to engage in a behaviour. The model suggests that beliefs about the consequences of the behaviour are keys to the formulation of attitude towards the behaviour. Moreover, the normative beliefs and motivation to comply with others are important to formulate the subjective norm, that is, a perception that one should or should not perform a particular behaviour based on its compliance with others' beliefs (Crisp, et al., 1997).

Figure 4.1:   The Theory of Reasoned Action
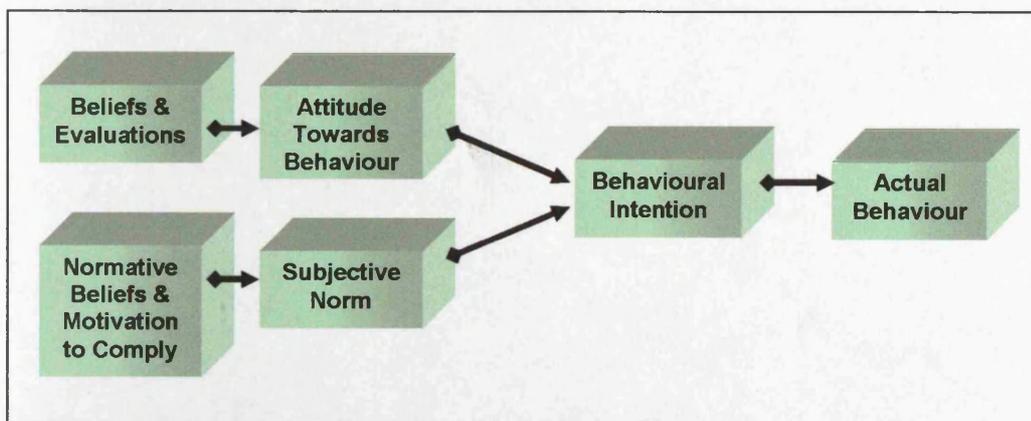
Source: Fishbein and Ajzen, 1975

The TRA, however, is very general and as such does not specify the beliefs and norms that are operative for a particular behaviour (Davis et al., 1989). Hence, Davis (1986) introduced an adaptation of the TRA, the Technology Acceptance Model (TAM), which was specifically tailored towards modelling user acceptance of new technology. This model is described in a subsequent section.

4.1.2 The Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) is an extension of the TRA. In addition to the constructs of attitude and subjective norms, the TPB incorporates an additional construct of perceived behavioural control, to deal with the inability of the TRA to account for conditions where individuals do not have total control over their behaviour. Perceived behavioural control refers to an individual perception of the availability of skills, resources and opportunities that may either inhibit or facilitate behaviour. It addresses both internal control, such as a person's skills and abilities, and external constraints, such as the opportunities and facilities needed to perform a behaviour. According to the TPB, an actual behaviour is a function of behavioural intention and perceived behavioural control. Behavioural intention is determined by attitude, subjective norms and perceived behavioural control, as shown in Figure 4.2.

Figure 4.2: The Theory of Planned Behaviour
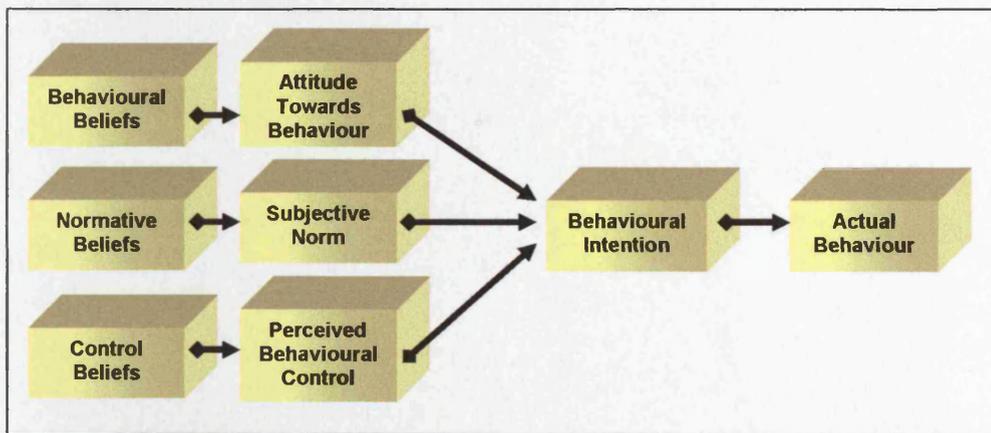
Source: Ajzen, 1991

In summary, both the TRA and its extended model, the TPB, were widely adopted as theoretical bases for studying users' adoption of IT systems and the Internet. For example, in Crisp et al. (1997) and George (2002 & 2004), these theoretical models were adopted to study users' attitudes towards the Internet and their intentions to make online purchases respectively.

4.1.3   The Technology Acceptance Model

As has been discussed previously (see Chapter 3), the TAM was originally developed to understand the causal link between external variables and user acceptance of computer-based applications. The TAM, proposed by Davis (1986), was derived from the TRA discussed earlier. While the TRA is a general theory to explain general human behaviour, the TAM is specific to information system usage. The TAM has been widely used as a theoretical framework in recent studies to explain technology adoption, including the Internet and the World Wide Web (Fenech, 1998; Cheung et al., 2000; Venkatesh and Davis, 2000; Chen et al., 2000 & 2004; Spacey et al., 2004) (see Appendix 4.2).

The constructs of *perceived usefulness* (PU) and *perceived ease-of-use* (PEU) are two salient beliefs that form the basis of the TAM. Davis (1989) defines PU as "*the degree to which a person believes that using a particular system would improve his or her job performance*" while PEU is "*the degree to which a person believes that using a particular system would be free of efforts*". PU and PEU reflect beliefs about the task-value and user-friendliness of new technology respectively.

The TAM is usually used for explaining the relationship between usage (both self-reported and anticipated future usage) and PU and PEU. Davis et al. (1989) made a comparison between this model and the TRA, in which the TAM included an '*attitude*' element and an '*intention*' element. Their study found positive relationships between PU and PEU and attitude, between attitude and behavioural intention and between behavioural intention and usage. They found that none of the other TAM variables had a significant effect on usage over and above intentions, which suggests that intentions fully mediated the effects of these other variables on usage (Davis et al., 1989). In order to identify a relationship between TAM variables and usage, whether mediated or not, these direct relationships must be tested in the absence of the mediator and shown to be significant. These tests were not presented in Davis et al. (1989). A subsequent paper (Davis et al., 1992) did test for mediation by intention and found an effect. However, attitude was not tested in that study. Further complications with the inclusion of attitude in the model occur because the calculation of attitude involves the multiplication of beliefs by evaluations of consequences (Fishbein and Ajzen, 1975; Davis et al., 1992). Because the two variables to be multiplied are not measured on ratio scales, such a calculation is often claimed to be invalid. For this reason and to keep the model as simple as possible, attitude was not used in this study (see Section 4.2).

The TAM has been utilized in many online contexts to gauge user perceptions of system use, and the probability of adopting an online system (Teo et al., 1999; Moon and Kim,

2001; Pavlou, 2001; Gefen and Straub, 2000 & 2003). The TAM was tested and validated with a variety of user samples and technologies in its extended form (Davis et al., 1989; Mathieson, 1991; Malhotra and Galletta, 1999), and also in its simplified form that reflects the causality chain ease-of-use - usefulness - usage intention (Davis, 1989; Davis et al., 1989; Igbaria et al., 1995; Agarwal and Prasad, 1998). According to Davis "*the goal of TAM is to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of end-user computing technologies and user populations*" (Davis et. al., 1989, p.985).

Figure 4.3: The Technology Acceptance Model
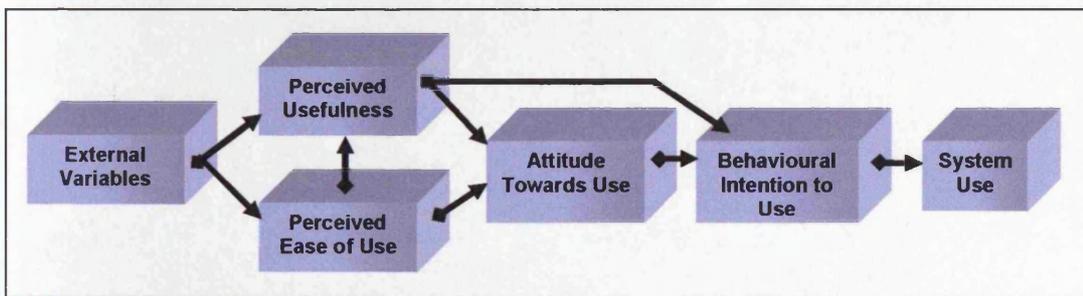
Source: Davis et al., 1989

As presented in Figure 4.3, the model posits that actual usage is determined by users' behavioural intention to use, which in turn is influenced by their attitudes and the belief of usefulness. Users' attitude, which reflects favourable or unfavourable feelings towards using IS technology, is determined jointly by PU and PEU. PU, in turn, is influenced by PEU and external variables (see Appendix 4.1), which may include system design features, web navigation and customer online support, etc. **The logic inherent in the TAM is that the easier the mastery of the technology, the more useful it is perceived to be, thus leading to more positive attitudes and greater intention towards using the technology and consequently greater usage of the technology. Since the TAM has been applied and proved by many studies of IS (see Appendix 4.2), it may aid an understanding of e-shopping adoption amongst Internet users.**

4.1.4   The Diffusion of Innovation Theory

Apart from the theories mentioned above, the Diffusion of Innovation Theory (DIT) is also relevant to account for the adoption of travel e-shopping. As has been discussed in the preceding chapter (see Chapter 3, Section 3.1), the DIT explains the innovation decision process, the factors determining the rate of adoption and different categories of adopters. According to the DIT, there are five important innovation attributes that explain the different rates of adoption by users, namely relative advantage, compatibility, complexity, trialability,

and observability. A sixth attribute of perceived risk is proposed in some other studies. Among these attributes, only relative advantage, compatibility and complexity are consistently related to innovation adoption (Chen et. al, 2000).

According to Rogers (1983 & 1995), the distribution of adopters of an innovation can be approximated by a normal distribution of the time of adoption (see Chapter 3, Section 3.1.3). Using the mean and standard deviation of this distribution as a method of segmentation results in five adopter categories: *Innovators, Early Adopters, Early Majority, Late Majority, and Laggards* (see Figure 4.4). As described previously, each of the categories has dominant characteristics: for example, *Innovators* are venturesome; *Early Adopters* are opinion leaders who are widely respected in their social circle; *Early Majority* members are deliberate; the *Late Majority* are sceptical about the value of an innovation and *Laggards* are traditional.

It is important to note that for the purposes of the subsequent discussion, the phrase 'Early Adopters' will include Rogers' categories of innovators, early adopters and early majority and the phrase 'Later Adopters' will connote individuals belonging to any of the two remaining categories.

Figure 4.4:   Rogers' Adoption/ Diffusion Curve
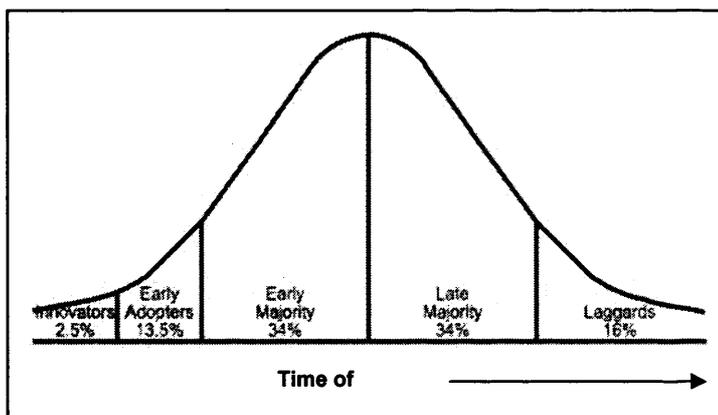
Source: Rogers, 1962

Rogers uses innovativeness, operationalized as time of adoption, to derive adopter categories. **As early adopters of an innovation are those that have exhibited their willingness to use an innovation through overt behaviour, this study therefore focuses on the early adopters' shopping behaviour in travel e-shopping.**

Diffusion theory also posits the influence of several external factors on the rate of adoption, including media use, ownership, change agent contacts and socio-demographic variables.

Mass media, interpersonal channels and contact with change agents influence attitude formation, and can lead to changes in weakly held attitudes (Rogers, 1995). In addition, technology ownership could also influence beliefs about an innovation. Ettema (1984) found that new technologies are most likely to be adopted if they are functionally similar to existing ones. For example, the adoption of Internet banking could influence individuals to perceive similar technologies such as Internet shopping to be more beneficial. **Hence, the research model presents elements related to the diffusion of innovation of Internet shopping, namely innovativeness, opinion leadership and involvement.**

4.1.5   Comparison of Adoption Models

Although the TAM, TRA, TPB, and DIT focus on different determinants to explain consumer behaviour in technology adoption, these theories share some similarities.

Firstly, the TRA, TPB and TAM assume an attitude-intention-behaviour relationship, that is, cognitive and normative or affective beliefs form an attitude, which, in turn, has an influence on behavioural intention and actual usage behaviour.

Secondly, PU in the TAM is similar to relative advantage, while PEU is closely related to the complexity construct in the DIT. These constructs are considered as cognitive components of an individual's attitude.

Thirdly, both the DIT and the TAM place similar importance on beliefs and external variables in the decision to adopt a technology. The TAM specifies a causal linkage between consciously intended behaviours, attitudes and beliefs. In the TAM, external variables influence technology acceptance behaviour indirectly by affecting beliefs and attitudes. Comparatively, the TAM has been found to be much simpler, easier to use, and more powerful in determining user acceptance of computer technology compared to other models (Igbaria et al., 1995).

Having said that, the DIT and TAM differ in several theoretical aspects. The TAM was designed to explain IT implementation, and as such the variables in the model were formulated to predict user attitudes and behaviours within organizations. The DIT has a much broader scope, since it includes any innovation such as a new idea, practice, technique or object that is perceived as new by a unit of adoption (Rogers, 1995). The unit of adoption ranges from individuals within a social system to groups and organizations.

Although the TAM and other social psychological models have been extensively used as theoretical foundations in technology adoption studies, little attention has been paid to the

study of online purchase of travel services. Constructs related to innovativeness characteristics such as domain specific innovativeness, opinion leadership and involvement, drawing from related consumer behavioural models such as the DIT, are not included in most of the previous technology adoption studies.

This study attempts to fill the gap by integrating the TAM with the DIT into a research model to fit the study of travel e-shopping. Apart from the above-mentioned constructs, including PEU and PU, trust and perceived risk are also taken into account in the proposed research model to explain the adoption of e-shopping, as many studies have proven their influence on the adoption of online transactions (Doney and Cannon, 1997; Ratnasingham, 1998; Hoffman et. al., 1999; Jarvenpaa et. al., 1999; Swaminathan et. al., 1999; Friedman et. al., 2000; Lee and Turban, 2001; Tan and Thoen, 2001; Kim and Prabhakar, 2000; Pavlou, 2003) (see Chapter 3, Sections 3.6 & 3.7).

Against this background, this study uses the theoretical foundations of the TAM and the DIT to develop and test an integrated model predicting potential antecedents of adoption by existing travel e-shoppers. The hypothesized model is tested on travel e-shoppers via an online survey. Travel e-shopping was chosen because prior research on its adoption is still limited, even though travel services have become the most popular product for online purchase by Internet users.

From a practical standpoint, this enables researchers to compare the relative influence of each variable on the process and to formulate effective strategies for influencing adoption. Hence, the research model would be able to synthesize both perspectives and develop an integrated model to explain adoption.

4.2　　Research Framework

Synthesizing the theoretical foundations and the pertinent literature reviewed in the previous chapter, the research framework was developed to investigate the factors that influence the adoption of travel e-shopping within the context of UK consumers. The TAM was chosen as the basis for developing a conceptual model explaining consumers' e-shopping adoption due to its consistent capability to explain a substantial proportion of variances between behavioural intention and actual behaviours derived mainly from research into the purchase of technology related products (Davis et al., 1989; Mathieson, 1991; Adam et al., 1992). In particular, the proposed model seeks to take advantage of the validity and reliability of perceived usefulness (PU) and perceived ease-of-use (PEU) in the

TAM by adding other constructs in order to improve explanatory and predictive power (Taylor and Todd, 1995; Igbaria et al., 1996; Jiang et al., 2000; Gefen and Straub, 2000).

Building upon the TAM model, which theorizes that acceptance behaviour is determined indirectly by two cognitive beliefs, PU and PEU, through users' attitude toward using new technology (Davis et al., 1989) (see, Section 3.2.3), this research framework proposes that consumer adoption of travel e-shopping will be strongly influenced by: (i) PU and PEU, (ii) consumer involvement, consumer innovativeness and opinion leadership, and (iii) perceived risk and trust.

Figure 4.5: Internet Shopping Adoption Framework
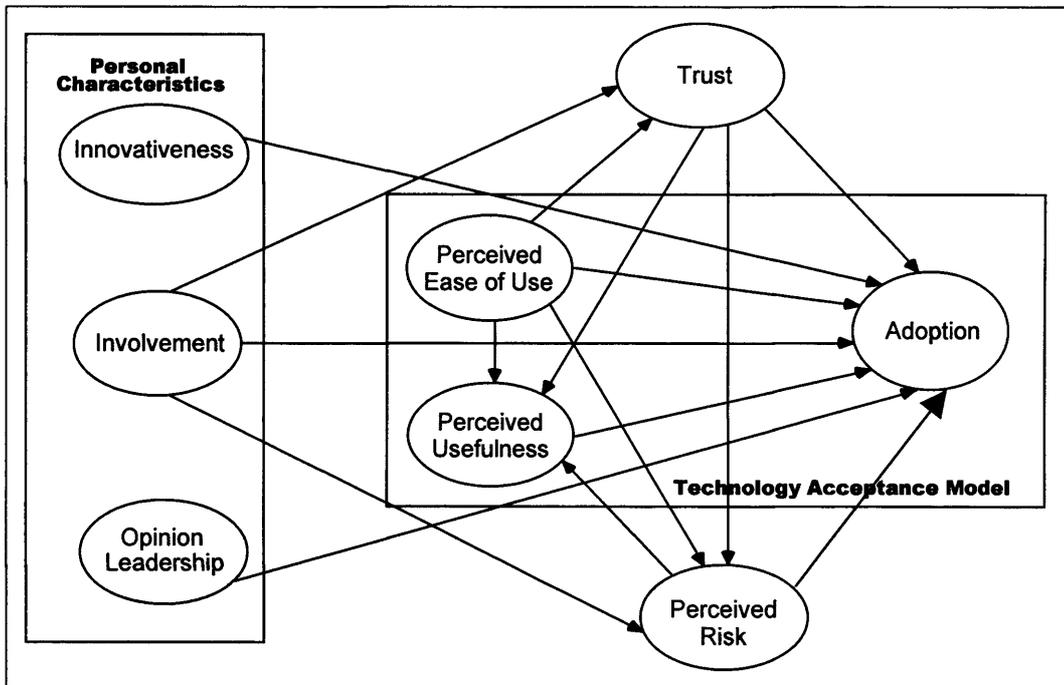
Source: this study

As presented in Figure 4.5, the proposed model maintains the relationship between perceived usefulness (PU) and perceived ease-of-use (PEU) but eliminates the attitude construct. The elimination of the attitude construct is due to several reasons, as suggested by previous studies (Davis et. al, 1989; Szajna, 1996; Venkatesh and Davis, 1996). Amongst the reasons are:

   a. The TAM relies on the premise that attitude factors are comprehensively included within the construct of PU. People may use a technology even if they do not have positive attitudinal affect towards it as long as it is useful or provides productivity enhancement (Davis et al., 1989).

b. Prior empirical studies support a non-significant effect of attitude on behavioural intention (Davis et al., 1989). On the other hand, PU was found to be the major determinant of behavioural intention, while attitudes illustrated a non-significant impact toward behavioural intention. Although PU has an important influence on attitude formation, it is possible that attitudes might not play a strong role in predicting behavioural intention after an individual has been exposed to the technology for long enough.

c. The elimination of attitude improves parsimony without significantly lowering predictive capability (Davis, 1985; Mathieson, 1991).

Since there is a strong correlation between intentions and behaviours, which has been empirically validated by a number of IS researchers (e.g. Davis et al., 1989; Taylor and Todd, 1995), the adoption construct in the research framework represents both actual adoption of travel e-shopping and intention to continue the adoption. The intentional behaviour and actual usage constructs of the original TAM were included within the adoption construct in the model. Other constructs on the proposed model are *consumer innovativeness, opinion leadership, consumer involvement, perceived risk* and *trust*, which are added into the model. A detailed explanation of the model, its constructs and its hypotheses are presented in the following sections.

4.3   Research Hypotheses

Based on the proposed research framework on the antecedents of consumer adoption of travel e-shopping, this section formulates a set of hypotheses which are defined from the previous literature review. This is to explore the relationships among the constructs of the study. Figure 4.6 illustrates the relationships of the constructs and the proposed hypotheses.

Figure 4.6: Internet Shopping Adoption Model and Hypotheses
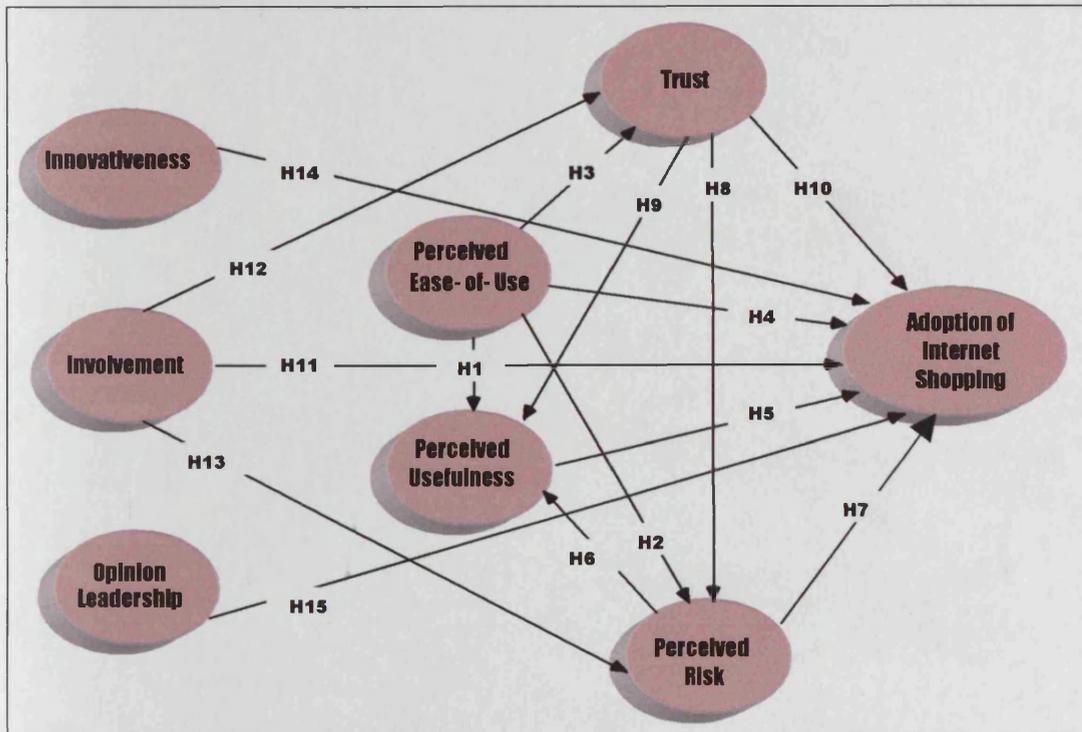
Source: this study

4.3.1 Perceived Ease-of-use

Perceived Ease-of-use (PEU) is the original TAM construct that refers to the belief that a particular technology would be applied with no effort (Davis, 1989; Fenech, 1998). Applying this to travel e-shopping, a shopping website that is perceived to be user-friendly will facilitate usage and will be more likely to be accepted by e-shoppers. In the research model, PEU includes ease of: conducting the transaction, navigating, searching for information, and obtaining online help or support from travel agents' websites.

The past findings on TAM validate the positive relationship between PEU and perceived usefulness (PU). In some studies, PEU is found to have an influence on behavioural intention indirectly through PU (Davis et al., 1989; Davis, 1989; Chau, 1996; Chen et al., 2000; Pavlou, 2002) as well as reducing the perceived risk associated with online shopping (Featherman and Pavlou, 2003). If a technology is perceived to be too difficult to use, a person will also perceived it as a risky task, and will thus have less trust in the technology. On this basis, PEU is hypothesized to have a negative effect on perceived risk, but a positive effect on trust in shopping travel services online. Conversely, if the technology is perceived as easy to use, it will positively affect the PU and trust of travel e-shopping as well as the adoption decision. Thus, the related hypotheses are:

H1: There is a positive relationship between perceived ease-of-use and the perceived usefulness of travel e-shopping

H2: There is a negative relationship between perceived ease-of-use and the perceived risk of travel e-shopping

H3: There is a positive relationship between perceived ease-of-use and trust in travel e-shopping

H4: There is a positive relationship between perceived ease-of-use and the adoption of travel e-shopping

4.3.2 Perceived Usefulness

Similar to PEU, perceived usefulness (PU) is also adopted from the original TAM. PU is defined as the degree to which a person believes that using a particular system would accelerate his or her personal growth and would enhance job performance (Davis, 1989). It is well documented and consistently proven in many studies to have a high impact on the behavioural intention to adopt technological products (Davis et al., 1989). The PU of using travel e-shopping is measured in terms of financial and time savings, increased flexibility, greater control of purchase decisions, and greater access to information about travel services. PU is the most important factor influencing behavioural intention, especially when making an adoption decision. Most prior studies on PU have focused on the usage or adoption of information technology and the Web but not on the adoption of purchasing products online (see Moon and Kim, 2001; Pavlou, 2001; Gefen and Straub, 2000 & 2003). The more useful it is perceived to be, the more positive the attitude and the greater the intention the e-shoppers will have towards adopting travel e-shopping. Thus the hypothesis is:

H5: There is a positive relationship between perceived usefulness and the adoption of travel e-shopping

4.3.3 Perceived Risk

Perceived risk (PR) is the uncertainty perceived by a consumer in a particular purchase situation. Adoption of a new technology will usually embody risks because there are uncertainties. Consumers generally associate a higher level of risk with non-store purchases as compared to store purchases (Akaah and Korgaonkar, 1988). Unlike offline consumers, online consumers are concerned with risks involved in buying online, such as credit card fraud and not receiving the right products (Bhatnagar et al., 2000; Heijiden et al., 2003). A survey of 9,500 e-shoppers revealed that 55 percent of e-shoppers stopped the buying process prior to check-out and 32 percent stopped at the point of sale, mainly due to

the fact that they did not want to give personal information and their credit card numbers (Shop.org, 2004). Thus, relative advantage such as brand reputation, product trials and warranties are often used to reduce the risk perception of consumers (Roselius, 1971; Shimp and Bearden, 1982; Boulding and Kirmani, 1993).

The PR associated with travel e-shopping include: (i) performance risk, that is, whether the travel services delivered by the services providers will live up to customers' expectations; (ii) economic risk, that is, monetary losses when the services delivered fall short of customers' expectations; and (iii) transaction risk, that is, the risk and security associated with payment systems, booking systems, personal details and credit card details, which are considered as private by most consumers. PR is expected to affect the PU of online shopping and subsequently will influence the adoption decision. Therefore, PR is a vital construct to be included in the research model. PR is hypothesized to have a negative effect on both PU and the adoption of travel e-shopping. Thus, the hypotheses are:

H6: There is a negative relationship between perceived risk and the perceived usefulness of travel e-shopping

H7: There is a negative relationship between perceived risk and the adoption of travel e-shopping

4.3.4 Trust

Trust is an imperative element in any online transaction context, as it involves more uncertainties and risks when shopping in virtual settings. The impersonal and open nature of the electronic infrastructure brings about uncertainties and risks that necessitate a greater degree of trust in making transactions. Many customers do not trust web providers with their personal information, nor to engage in exchanges with them (George, 2002; McKnight et al., 2002). The notion of trust has been regarded as the main barrier to the widespread diffusion of online shopping among consumers, since there is a fundamental lack of faith on the web.

Travel e-shopping involves a greater degree of trust than other online product transactions such as buying books because higher risk is foreseen by consumers. In this study, the trust towards travel e-shopping is based on two aspects: (i) trust in service providers or online travel agents (e.g. trust in the ability of travel e-retailers to deliver quality services, and their integrity to preserve the privacy of personal and financial information) and (ii) trust in the Internet as a transaction medium.

In other words, the more customers trust the service providers and Internet transaction, the lower PR they have regarding e-shopping, which will thus lead to greater intentions to adopt travel e-shopping. Likewise, the more trust consumers have, the higher the PU of travel e-shopping. In this connection, the trust construct influences e-shoppers' behavioural intention directly or indirectly through PR and PU. Thus, the related hypotheses are:

H8: There is a negative relationship between trust and the perceived risk of travel e-shopping

H9: There is a positive relationship between trust and the perceived usefulness of travel e-shopping

H10: There is a positive relationship between trust and the adoption of travel e-shopping

4.3.5   Consumer Involvement

Zaichkowsky (1985) defines consumer involvement as the perceived relevance of the object based on their interests, needs or values. Involvement has been conceptualised as the interest, enthusiasm and excitement that consumers manifest towards a product category (Bloch, 1986; Goldsmith et al., 1998). The model proposed by Lockshin et al. (1997) suggested three dimensions of involvement: (i) product involvement (ii) brand involvement and (iii) purchase involvement.

As travel e-shopping is a relatively new activity, purchase involvement is the most suitable dimension to adopt. In this context, consumers go through two types of cognitive evaluation before they engage in the actual purchasing decision: firstly, they need to determine whether the travel services offered over the Internet (e.g. types of holiday packages) are personally relevant to them; secondly, consumers have to evaluate whether their involvement in the purchasing process is stimulated or hindered by various motivational factors (e.g. boring vs. interesting, good vs. bad). As these two types of involvement are related but different states of being, it would be interesting to establish whether any of the above factors would be significant in predicting consumers' shopping behaviour for travel services over the Internet. According to Engel et al. (1995), the degree of personal involvement is the most important factor that shapes the type of decision-making process and the subsequent purchasing behaviour.

Therefore, it is expected that consumer involvement levels might be influenced by trust in retailers and the reliability of the system. For example, trust might be higher for well-known websites such as *BritishAirways.com* or *Hilton.com*, due to the well-known brand names. Eventually, the more consumers are involved in the e-shopping experience, the more trust

they gain in the retailers and the transaction systems; also, the lower the risk perceived in relation to travel e-shopping. Thus, the hypotheses are as follows:

H11: There is a positive relationship between consumer involvement and the adoption of travel e-shopping

H12: There is a positive relationship between consumer involvement and trust in travel e-shopping

H13: There is a negative relationship between consumer involvement and the perceived risk of travel e-shopping

4.3.6 Consumer Innovativeness

Innovativeness is a personality construct that is possessed to a greater or lesser degree by all individuals when adopting new products or ideas. Since consumer innovativeness (CI) is closely related to the adoption of new products (Blythe, 1999; Rogers, 2003), this influences the speed with which the adoption takes place after a product enters the market (Goldsmith et al., 2003). Thus CI has a great impact on the adoption of travel e-shopping. As presented in the literature review, there are two main types of consumer innovativeness: (i) open-processing innovativeness, and (ii) domain-specific innovativeness, which could be used to define and measure consumer innovativeness (see Chapter 3, Section 3.3).

Most studies of innovativeness are conducted within a specific product field and thus the measures used are designed for this same level of specificity (Goldsmith and Flynn, 1992). Domain- or product category-specific innovation reflects the tendency to learn about and adopt innovations within a specific domain of interest, and therefore taps a deeper construct of innovativeness that is more specific to an area of interest (Citrin et. al., 2000). This implies that consumers who are likely to adopt the latest new product in one field may be laggards in another (Goldsmith et al., 1998). With reference to travel e-shopping, it is likely that the domain of interest for travelling or vacations may influence e-shoppers' innovativeness levels and hence influence the decision to adopt travel e-shopping. Thus the hypothesis is:

H14: There is a positive relationship between consumer innovativeness and the adoption of travel e-shopping

4.3.7 Opinion Leadership

As discussed in Chapter 3, opinion leadership is a concept that was developed from the theory of two-step flow of communication advocated by Katz and Lazarsfeld (1955). This theory is one of several models that try to explain the diffusion of innovations. An opinion leader (OL) is an agent who is an active media user and who interprets the meanings of media messages or content for lower-end media users. Typically, the OL is held in high esteem by those that accept his or her opinions. Opinion Leadership tends to be subject specific: that is, a person who is an OL in one field may be a follower in another field.

According to Rogers (1995), early adopters frequently serve as OLs who can persuade others to adopt the innovation by providing evaluative information. The highest number of OLs is found among early adopters, who themselves do not rely on well-established references in making their buying decisions, preferring instead to rely on their own intuition and vision (Moore, 1999). Applying this to the present study, OLs will be more likely to be the consumers who first adopt travel e-shopping. In other words, the stronger the opinion leadership consumers have, the faster they adopt travel e-shopping. Thus, the hypothesis is:

H15: There is a positive relationship between opinion leadership and adoption of travel e-shopping.

4.4 Conclusion

In this chapter, all relevant adoption models and theories are discussed and compared. The two most reliable models of the adoption of new technology were chosen and adopted in this study. They are the Technology Acceptance Model and Diffusion Innovation Theory, which have formed the basis of the development of the conceptual framework for the present study. Five additional constructs taken from diffusion theory were put forth to explore the antecedents of online shopping adoption for travel services. A total of fifteen hypotheses were derived from the constructs to enable the research model to be empirically tested. The next chapter discusses the methodological approach taken in achieving the aims of the study.

METHODOLOGY

"The customer is not always right and we let them know it from time to time."

– Sir Alan Sugar –
(Founder and Chairman, Amstrad plc.)
– Speech, City University Business School (April 1987) –

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Reliability

Chapter Five
METHODOLOGY

5.0   Introduction
The previous chapters established the context of the thesis, the main areas of focus and the conceptual framework. This chapter proceeds with details of the research methodology utilised in the study to empirically test the research hypotheses and the model proposed in Chapter 4.   This chapter aims to link the proposed conceptual model and related hypotheses with the empirical results presented in the next two chapters.

The chapter is organised around six main topics of methodology: the research paradigm, research design, data collection, sampling techniques, measurement and scaling, and data analysis techniques.   The issues of validity, reliability and ethical considerations are also discussed in the final section. This section also presents the findings of a brief exploratory focus group interview that was conducted prior to the questionnaire development process. These findings will also be re-visited in Chapter 8.

5.1   Research Paradigms
Many researchers in social study have suggested a range of research approaches or methodologies for investigation (Morgan, 1983; Patton, 1990; Dick, 1995).   According to Abernethy et al. (1999) a fundamental axiom of good research is that the methods applied should be based on the research questions posed.   Burrell and Morgan (1979) and Guba and Lincoln (1994) have outlined frameworks for decision-making in the choice of a methodology. Guba and Lincoln (1998) distinguished four major research paradigms, namely positivism, post-positivism (realism), critical theory and interpretivism/ constructivism.   Due to space concerns, research paradigms and philosophy are briefly discussed in the following tables, followed by a discussion of the present study's position. Tables 5.1 and Table 5.2 explain these paradigms in terms of paradigm-defining elements: ontology, epistemology and methodology.

Table 5.1: Research Paradigms, Definitions and Elements

Orientations	Paradigms			
	Positivism ←---→ Phenomenology			
	Positivism	Post-positivism	Critical Theory	Interpretivism
Ontology	'Naïve realism' in which an understandable reality is assumed to exist, driven by the immutable nature of reality, which can only be obtained by testing theories about actual objects, process or structures in the real world.'	Critical realism- 'real' reality but only imperfectly and probabilistically apprehendable.	Historical realism-social reality is historically constituted; human beings, organizations, and societies are not confined to exiting in particular states.	Relativism-local and specific constructed realities; the social world is produced and reinforced by humans through their action and interaction.
Epistemology	Dualist/objectivist; verification of hypotheses through rigorous empirical testing; search for universal laws of principles; tight coupling among explanations, predictions and control.	Modified dualist/ objectivist; critical tradition/ community; findings probably true.	Transactional/ subjectivist; knowledge is grounded in social and historical practices; knowledge is generated/ justified by a critical evaluation of social systems in the context of researchers' theoretical framework adopted to conduct research.	Transactional/ subjectivist; understanding of the social world from the participants' perspective; through interpretation of their meanings and actions; researchers' prior assumptions, beliefs, values and interest always intervene to shape their investigations.
Methodology	Hypothetical-deductive experiments/ manipulative; verification of hypotheses; chiefly quantitative methods.	Modified experimental/ manipulative; falsification of hypotheses; may include quantitative methods.	Dialogic/ dialectical; critical ethnography; interpretive case study; action research.	Hermeneutical/ dialectical; interpretive case study; action research; holistic ethnography.

Source: Guba and Lincoln, 1998.

Table 5.2: Positivist vs. Intrepretivist Approach

	Positivist Approach	Interpretivist Approach
What is reality?	A definable 'reality' or 'truth' that exists and is observable.	There is no 'reality' or 'truth' beyond experience.
What is the goal of academic enquiry?	Acquisition of the 'truth'	A more informed construction of the world.
How are the researcher and the 'researched' related?	The researcher is independent of the 'researched'.	The researcher is not independent of the 'researched'.
What should be the roles of values?	None-objectively sought	Part of 'reality'-subjectively celebrated.
What kind of approach?	Predominantly based on observability or measurability and with the aim of seeking 'evidence'.	Predominantly based on discourse and meaning with the aim of seeking a more informed understanding of the world.
What kind of data is preferred?	Predominately quantitative	Traditionally associated with a predominately qualitative approach.

Source: Sumner and Tribe, 2004

5.1.1   Ontology and Epistemology

Ontology is the branch of metaphysics concerning the nature of reality. Its central question is whether social entities can, or should, be considered to be social constructions built up from the perceptions and actions of social actors. Burrell and Morgan (1979) suggest two main ontological possibilities: (i) there is one reality and it is observable by an inquirer who has little if any impact on the object being observed, and (ii) a reality consists of an individual's mental constructions of the objects with which they engage, and the engagement impacts on the observer and the situation being observed. Many consumer studies are linked to this ontological view, as consumers are heterogeneous in their beliefs, attitudes and behaviours (Hirschman, 1986; Guba and Lincoln, 1994).

Deriving from ontology is epistemology, which is a branch of philosophy that is concerned with the nature, origin and scope of knowledge and 'how we know what we know'. It deals with assumptions about truth and non-truth. Burrell and Morgan (1979) suggest that the relationship can derive from accepting that knowledge can be either viewed as objectively knowable, or in contrast, only subjectively knowable. In simpler terms, ontology is the 'reality' that researchers study, epistemology is the relationship between that reality and the researcher, and methodology is the technique used by the researcher to investigate that reality (Healy and Perry, 2000). Thus, ontology is 'being', epistemology is 'knowing' and methodology is 'studying'.

5.1.2   Positivism and Interpretivism

Based on the philosophical assumptions, research can be classified as positivist or interpretive (Klein and Myers, 1999). Different research methods, such as case studies and action research, can be positivist or interpretive, though this distribution is often extremely contentious (Walsham, 1995).

Positivists generally assume that reality is objectively given and can be described by measurable properties, which are independent of the observer (researcher) and his or her instruments. Positivist studies generally attempt to test theory, in an attempt to increase the predictive understanding of phenomena. In line with this, Orlikowski and Baroudi (1991) classified IS research as positivist if there was evidence of formal propositions, quantifiable measures of variables, hypothesis testing, and the drawing of inferences about a phenomenon from the sample to a stated population. There has, however, been much debate on the issue of whether or not this positivist paradigm is entirely suitable for the social sciences (Hirschheim, 1985). However, some authors suggest for a more pluralistic attitude towards IS research methodologies (see e.g. Kuhn, 1970; Remenyi and Williams, 1996). In actual fact, some of the difficulties experienced in IS research, such as the inconsistency of results, may be attributed to the inappropriateness of the positivist paradigm for the domain.

On the other hand, Interpretivists contend that only through the subjective interpretation of and intervention in reality can that reality be fully understood. The study of phenomena in their natural environment is the key to the Interpretivist philosophy, together with the acknowledgement that scientists cannot avoid affecting those phenomena they study. They admit that there may be many interpretations of reality, but maintain that these interpretations are in themselves a part of the scientific knowledge they are pursuing.

As no single research methodology is intrinsically better than any other methodology, many authors suggest a combination of research methods in order to improve the quality of research (e.g. Kaplan and Duchon, 1988). **This research includes elements of both positivist and interpretivist approaches, based on the research questions set out in Chapter 1 and the operationalisation in Chapter 4. Positivism and Interpretivism are two different perspectives that shape the understanding of this study.**

5.1.3 Paradigmatic Stance of the Research

The selection of an appropriate research methodology can be conceptualised as an iterative process, where decisions made at an ontological level inform one's epistemological stance and similarly create the context in which research is actually conducted.

The ontological position of the present research is that reality exists outside a researcher's mind. This research is based on the belief that there exists a real physical world beyond our knowledge and comprehension. Additionally, there also exists a social world that is being constructed, shaped and influenced by our life experiences, knowledge and desire. Thus, this study takes the position that one can only apprehend reality to a limited extent; one can never obtain the entire picture of a studied phenomenon. This study agrees that all types of research involve some degree of subjectivity (Hammersley, 1992). Therefore, reality can be studied to a certain extent and generalisations can be made with a degree of probability.

The epistemological position of the present study is positioned between positivist and interpretative paradigms. Epistemology is much more focused on what is 'known' and the relationship between the researcher and the researched. This study can be considered as normative; it is not concerned with knowledge creation for its own sake, but as an instrumental means of contributing to a better understanding of consumer behaviour towards the adoption of Internet shopping. This study seeks to understand the phenomenon of consumer adoption of e-shopping by understanding the drivers towards the adoption behaviour. Thus, it investigates the existing reality and also tries to establish social constructions of reality.

The methodological position of this study rests on the use of multi-methods with more emphasis on quantitative methods. The quantitative and qualitative approaches offer complementary views of the social world. While qualitative research is a rich source of data, it remains unclear as to how one arrives at firm conclusions. Quantitative research, conversely, involves precision and can yield statistically significant effects, although their meaning and ecological validity are open to question (Smith and Louis, 1986). This study relies on the triangulation of qualitative methods (literature review and focus group discussions) with qualitative methods (final data collection via an Internet survey, also known as an e-survey). This approach is appropriate for the present study, where the variables that will be tested quantitatively are first identified through qualitative methods.

Overall, it is believed that a phenomenological philosophy is relevant for the purpose of understanding how consumers adopt and adapt to the use of new technology, specifically Internet shopping for travel services. This research involves an element of technology diffusion, insofar as the technology was not previously adopted in certain consumer groups. This thus requires exploratory research to play a part in the preliminary survey process. However, recognising the lack of objectivity that is associated with the interpretive approach, this study adopts a positivist, quantitative approach to the development of the key research instrument. The various elements of the study approach are further elaborated in the following sections.

5.2   Research Design

A research design is a framework or blueprint for conducting a marketing research project, which details the necessary procedures for obtaining the information needed to structure or solve marketing research problems (Malhotra and Birks, 2000). The research design presented in this section is a format or approach to tackle the identified research questions (see Chapter 1). Basically, this section provides an overall framework for systematic and feasible data collection and handling, analysis and interpretation. Each component is discussed in detail in the subsequent sections.

5.2.1 The Literature Review

The literature review represents an important starting point within the research process (Gill and Johnson, 2002). It provides the means to map out the research that has been carried out previously on the particular topic area, identifying both strengths and weaknesses (Tranfield et al., 2003). Research questions can then be devised to address the weak areas, thereby adding to the overall body of knowledge. In this thesis, a number of different sources were used to develop the literature review:

i. **The Cardiff University libraries** – these libraries stocks a wide range of books and journals from both the trade and academic press.

ii. **Online journal database** – there are two main category of these databases. Some contain academic journals only, while others are more general and include trade journals as well. The list of consulted sources is as follows:

 a. Emerald Fulltext (http://www.emeraldinsight.com)

 b. Science Direct (http://www.sciencedirect.com)

 c. JSTOR (http://uk.jstor.org)

 d. Ingenta Connect (http://www.ingentaconnect.com)

 e. ABI Inform/ Proquest (http://www.umi.com)

 f. EBSCO Business Source Premier (http://search.epnet.com)

iii. **Conference papers and proceedings** – sometimes journal articles can take several years to be published. Therefore, conference proceedings represent an alternative way of accessing recent, continuing and some past unpublished research.

iv. **Internet** – increasing amount of information can be found on the Internet and can be easily found through search engines such as Google (http://www.google.co.uk). This proved to be particularly effective in finding working and conference papers as well as accessing trade press articles. These articles have been carefully selected, as the reliability of the Internet resources is sometimes questionable and authors are not always acknowledged.

Searches for articles were based around terms such as 'Internet shopping', 'online shopping', 'e-shopping', 'e-purchase', 'online purchase', and 'Internet shoppers'. Further articles were identified by tracing references back as well as searching for citations of particular relevant papers. As important as the literature review, research design needs to be emphasised in guiding the direction of the research process. The next section discusses the research design of this study.

5.2.2 Classification of Research Design

Generally, the research design is categorised into three basic types: exploratory, descriptive and causal (Malhotra, 1996; Churchill and Iacobucci, 2002). According to Malhotra and Birks (2000), research designs may be broadly classified as exploratory or conclusive. Exploratory research provides insights into and an understanding of marketing phenomena, while conclusive research assists the decision-maker in determining, evaluating and selecting the best course of action to take in a given situation (Malhotra and Birks, 2000). Figure 5.1 summarises the choices that this study made at various decision levels with regard to the research design.

Exploratory Research

As its name implies, the objective of exploratory research is to explore a problem or situation to provide insights and understanding. It also involves acquiring preliminary feeling or ideas about a vaguely defined research problem, which could provide the foundation and direction for a fruitful research investigation (Parasuraman, 1991). Exploratory research encompasses secondary data, pilot surveys, expert surveys, focus groups and unstructured observation. Exploratory research is suitable to address any research issue where relatively little knowledge is available. In this study, the secondary data (i.e. literature review and MINTEL report) and the focus group were utilized to gain an understanding about the prominent issues in Internet shopping as well as focusing on the potential area of research.

Figure 5.1:   The Research Design Decision
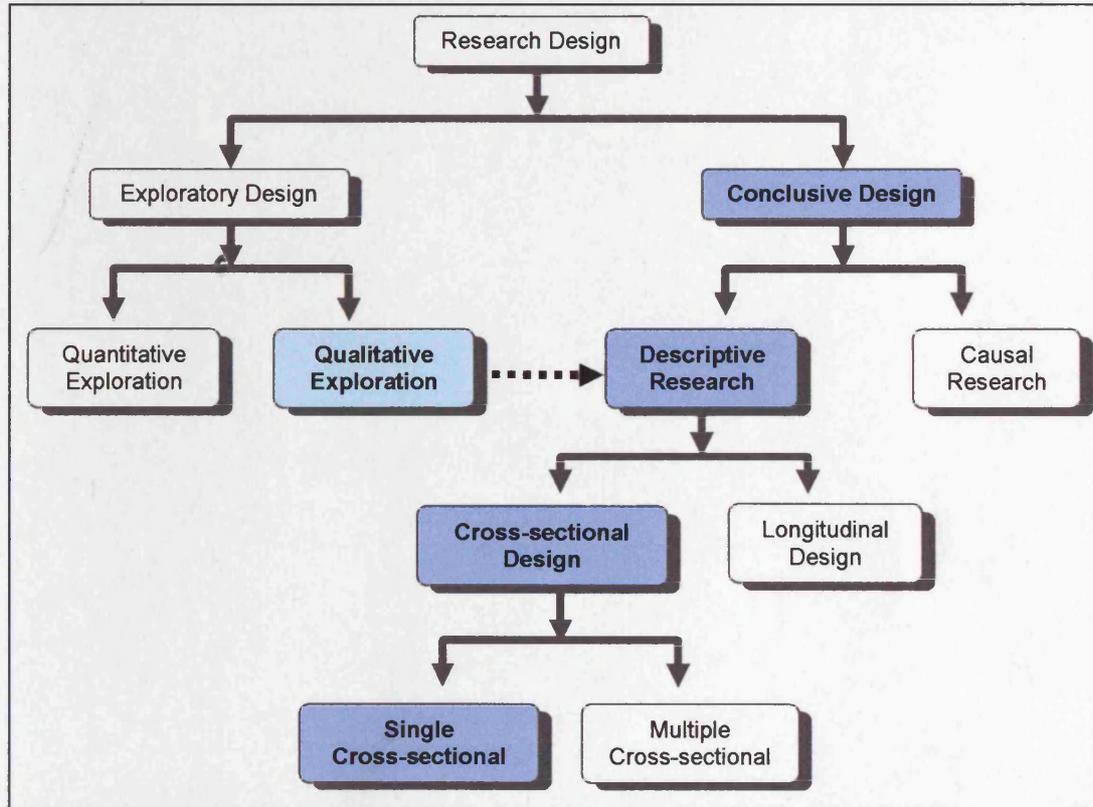
Source: Adapted from Malhotra and Birks (2000)
Note: Coloured boxes denote the path adopted

Conclusive Research

The objective of conclusive research is to describe specific phenomena, test specific hypotheses and examine specific relationships (Malhotra and Birks, 2000). This requires that the information needed be clearly specified (Kerlinger, 1986). The findings from this research are regarded as conclusive in nature. The conclusive research design may be either descriptive or casual, and within descriptive research, a study may be either cross-sectional or longitudinal.

Similarly, as the name implies, descriptive research, in essence, is to describe something (Parasuraman, 1991). Descriptive research is carried out in order to assess and describe the characteristics of the variables examined in the study (Sekaran, 2000). As illustrated in Figure 5.1, descriptive research can be classified into cross-sectional and longitudinal designs. Cross-sectional designs primarily involve collecting data from any given sample of population elements only once (Parasuraman, 1991; Malhotra, 1996; Churchill and Iacobucci, 2002). This is the most commonly adopted design in marketing research. In this context, it may be further categorised as either single cross-sectional or multiple cross-sectional. In single cross-sectional design, only one sample of respondents is drawn from

the target population, while in multiple cross-sectional designs, there are two or more samples of respondents; both approaches obtain information from the sample(s) only once (Malhotra and Birks, 2000).

The longitudinal design, in contrast, deals with a fixed sample(s) of population elements, which are measured repeatedly on several different occasions (Parasuraman, 1991; Churchill and Iacobucci, 2002). Longitudinal design differs from cross-sectional design in that the sample(s) remain the same over time. This concept is widely accepted and it may be more informative and realistic than cross–sectional studies, as it collects more interesting and revealing messages over time rather than just a 'snapshot' at a single point in time. However, this design is higher in costs and expenses, as well as demanding a longer time frame.

The second type of conclusive design is causal research, which is used to obtain evidence of cause-and-effect relationships. It is typically implemented by experimentation and had been claimed as the best method to determine cause and affect outcomes (Churchill and Iacobucci, 2002). The main purpose of this research design is to set apart cause(s) and to measure to what extent such cause(s) have impacts on effect(s). It is similar to descriptive research, as it requires a planned and structured design with the addition of a controlled environment to monitor experiments and manipulate dependent variables.

5.2.3   Adaptation of Research Design

Even though descriptive research design is predominantly applied in this study, unavoidably in the early stage of the study, exploratory research was essential in order to gather initial knowledge, particularly in identifying the specific attributes, features and subsystems that are distinctive to the research setting investigated. Therefore, in the initial stage of the study, the quantitative design of exploratory research was employed to provide insights and understanding of issues in Internet shopping adoption. As shown in Figure 5.1, the dotted line indicates that the insights from exploratory research were verified by conclusive research in this study.

In this particular stage, as well as an extensive literature search and observations on shopping websites, exploratory research was also conducted through focus group discussions. This has been suggested by many researchers (i.e. Morgan, 1988; Krueger, 1994; Vaughn et al., 1996), as it is necessary to have a clear picture of the actual experiences and opinion of respondents who have been involved in the studied phenomenon. This is crucial, especially when little information on a specific topic of interest is known. Focus groups potentially provide such an exploratory approach and may

be more effective in certain research processes than more traditional approaches (Greenbaum, 1993; Vaughn et al., 1996). Focus groups were chosen in this study as a preliminary survey, as this approach may be used to refine information previously known about the topic or may be designed to elicit new insights and information about the topic by examining it from a new angle.

As the main objective of the study is to identify the antecedents and their relationship with Internet shopping adoption within travel services, it was deemed that a descriptive research design would be the most appropriate in providing answers to the research questions. In the second phase of the study, the emphasis has shifted from qualitative exploratory tools to quantitative confirmatory ones. Based on the feedback gathered from the focus group (see Appendix 5.6), a questionnaire was developed as the main component of the data collection tool. In this study, quantitative data were collected through an e-survey, which was used to probe in detail some aspects of the emerging issues gathered from the focus group feedback. This quantitative component sought to provide an overview, which could be contextualised and interpreted using the results of statistical analyses. The following sections describe both methods in detail.

5.3 Data Collection Techniques

After defining the overall research design, the next process is to identify how to gather the relevant data. Figure 5.2 illustrates the choices made by this study with regard to the data collection method. The choice of suitable data collection methods should be determined by the type of research problem examined by the study (Tull and Hawkins, 1987). As such, this section discusses the rationales of the decisions made at each level of the data collection process.

In general, data sources are classified into two main types: primary data, which are produced by the researcher; and secondary data, which are produced by someone else. Primary data are data collected by the researcher for the experiment or survey being conducted, which is normally referred to as 'collecting data'. In contrast, the term 'secondary data' refers to any data collected by a person or organisation other than the users of the data. Secondary data sources include literature reviews, internal sources and external sources.

Figure 5.2:   Data Collection Method
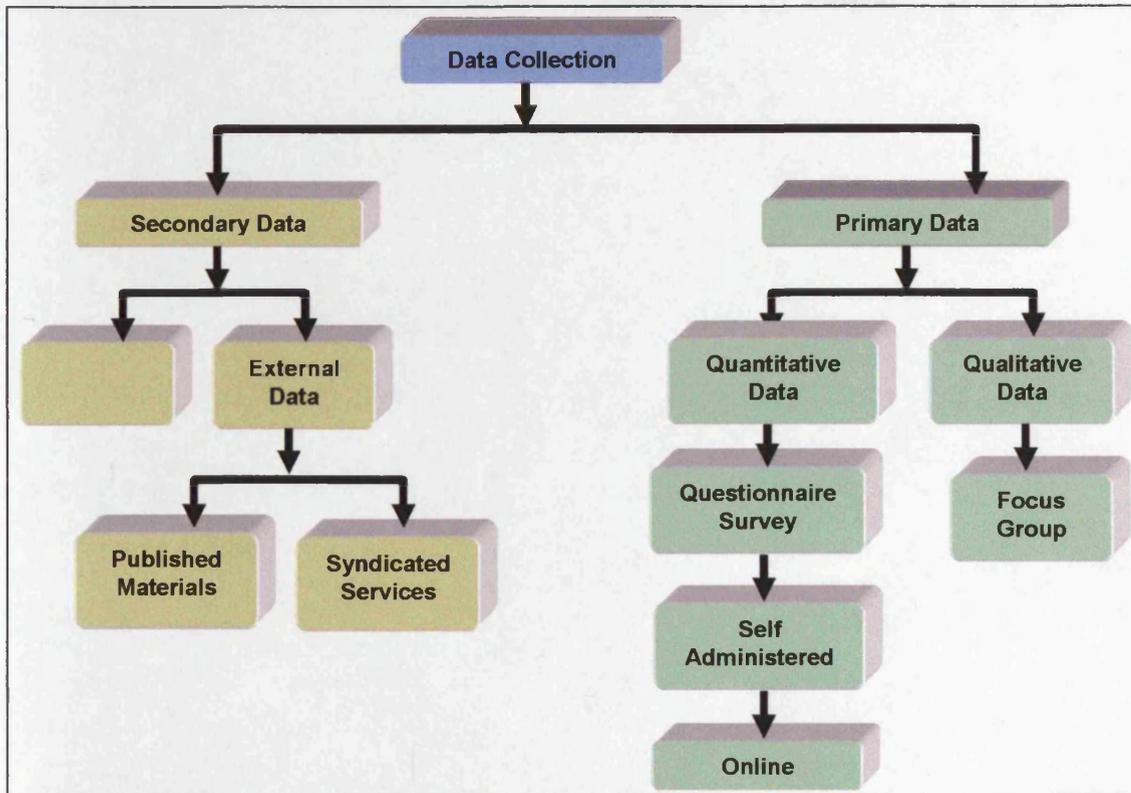
Source: Adapted from Malhotra and Birks (2000)

Most studies in the natural and social sciences involve a mixture of primary and secondary data sources. One way of understanding the relative uses of these two types of data is to examine the ways in which primary and secondary data would be used in a research project.

5.3.1   Secondary Data

Internal secondary data are those data available within the organization for which the research is being conducted. Malhotra and Birks (2000) suggest that internal sources should be the starting point in the search for secondary data. The internal information is basically available in two forms: first, a 'ready-to-use' format (data that can be used without processing) such as sales by product line; and secondly, data that require further processing before they can be used by the researcher. For instance, information available in sales invoices may not be easily accessed without further processing or extracting it. This data can be analysed, collated, indexed, reported and archived for any enquiries and decision-making.

External data are those generated by sources outside the organization. This data may be presented in the form of published material, online databases or information made available by syndicate services (Malhotra and Birks, 2000). The published material includes general business data such as guides, directories and indexes, statistical or government sources such as census data or any other forms in which data are made available by legally constituted organisations, primarily by government departments and statutory authorities.

As shown in Figure 5.2, the secondary data of this study were gathered from external sources that were generated from published materials and syndicated services. The published materials that were utilised include:

i. Family spending data from the National Statistics of British Office

ii. National mapping data from the Ordnance Survey

iii. Postcode classification data from the Royal Mail

iv. Social grade classification data from the National Readership Survey

On the other hand, significant amounts of data were also collected from external secondary data from syndicated services, which include:

i. Consumer spending on holidays/ travel from *MINTEL*

ii. UK household social grades from *MRS*

iii. MOSIAC consumer classification from *Experian*

These data were utilised particularly in the literature review and descriptive analysis chapter, and were used either to provide background for the study or to support the obtained results (see Chapters 2, 3, 4 and 6).

5.3.2   Primary Data

There are many methods of collecting primary data such as questionnaires, interviews, focus group interviews, observation, case studies, diaries and portfolios. The primary data generated by the above methods may be qualitative in nature (usually in the form of words) or quantitative (usually in the form of numbers). As mentioned previously, this study basically involved gathering both types of data (see Section 5.2). Figure 5.2 and Table 5.3 presents the process and steps taken in collecting the primary data.

Table 5.3: The Primary Data Collection Process

Method	Description	Respondent	Year
Focus groups	Conducted 2 homogeneous focus group discussions. Comprised of 6 male and 6 female groups of e-shoppers, amongst PhD students of Cardiff University from various departments, who were aged between 23 and 45 and had performed e-shopping at least once.	12 participants	July 2003
Questionnaire: 1st pilot test (offline)	Paper-based questionnaire were tested amongst academicians in the Marketing department of Cardiff Business school. The aim was to obtain comments on the design and content of the questionnaire (details in Section 5.3.9)	-14 sent -7 replies	April to May 2004
Questionnaire: 2nd pilot test (online)	Web-based questionnaire was tested on Internet shoppers from Cardiff Business School postgraduate students using e-mail invitation with a link to the survey website. The aim was to test technicality, questionnaire design & content, reliability and validity (details in Section 5.3.9)	-100 survey invitations -68 replies	June to July 2004
Final web-based survey	Web-based questionnaire was sent to Response Panel's e-mail database with survey link including the survey rewards (details in Section 5.3.10)	-483 survey invitations -299 usable replies	July 2004

Source: this study

As shown in Figure 5.2 and Table 5.3 the primary data collection commenced with qualitative data through focus group discussions, which were conducted in a non-structured and natural manner. The main purpose of the focus groups was to gain insights by listening to existing Internet shoppers about predetermined issues of e-shopping adoption (see Section 5.3.3). This was followed by the quantitative data collection, for which the main method was a questionnaire survey. A detailed discussion of the focus group and questionnaire components is presented in the next section.

5.3.3 Focus Groups

Focus group interviews are the most appropriate method to identify the most relevant issues to the research questions and enable the researcher to explore the experience of consumers (Calder, 1977). Feedback from these interviews could be used to generate items for the questionnaire, which will be subject to more rigorous tests. Focus groups involve the "explicit use of group interaction to produce data and insights that would be less accessible without the interaction found in a group" (Morgan, 1988, p.12). A focus group gathers information from a group of subjects about a particular topic. Although focus groups can be time consuming and expensive, they can also be an extremely efficient way of getting input from members of different groups (i.e. online shoppers and offline shoppers), and may be less expensive than conducting interviews with individuals.

Participants and Procedure

In this study, focus groups were conducted based on methods suggested by Krueger (1994). Prior to the focus group discussions, the discussion guide (see Appendix 5.3) was pilot tested with a group of five female PhD students to familiarize the moderator with the focus group method and identify problems in the questioning line. Then, after some minor modifications to the questions' format, the preparation for the actual focus group discussion began. A call for participation in the form of an e-mail invitation was sent to potential participants amongst Cardiff University's PhD students who had conducted e-shopping at least once (see Appendix 5.1). Table 5.3 indicates the selected participants and the structure of the focus groups.

The focus group discussions were conducted at the Cardiff Business School. As participants arrived, they were greeted and offered refreshments. Sessions began with a welcome and a brief overview of the topic and ground rules (see Appendix 5.2). Following this introduction, participants signed the consent forms. During the focus group discussion, all participants were free to speak at any time within an informal style, which was designed to encourage open participation. At the start, two audiocassette recorders were turned on and focus group participants were asked to introduce themselves and state one thing they had bought via the Internet. Tapes were spot-checked to be certain that participants' responses were captured.

The discussion was structured into eight topics related to shopping for products online (see Appendix 5.3). Questions were mostly open-ended and followed the criteria cited by Krueger (1994). They were designed to address factors such as the advantages and disadvantages of Internet shopping, factors that influence people to shop online, types of products purchased and possibilities for future usage. Consideration was given to factors previously identified in the TAM (Ajzen and Fishbein, 1980; Davis, 1989) and adoption model (Rogers, 1995). Possible probes were developed to accompany each question.

Initial impressions, overall themes, nonverbal behaviour and suggestions for improvements were addressed, and notes were made. Levels of familiarity and other group dynamics were also noted. At the end of the session, participants were shown an Internet advertisement for travel packages promotion to allow the researcher to observe the responses made by the participants to the offers (see Appendix 5.4). This was to observe whether their decision to purchase the offer would be influenced by certain factors such as package price, package types, location or the ad itself.

Focus groups lasted approximately 75 minutes to 1 hour and 20 minutes. After the focus groups were completed, participants were asked to fill out the payment form (see Appendix 5.5). All participants were thanked for their participation at the time of the focus group.

Analysing Focus Group Feedback

Since the moderator was present in all discussions and had intensive exposure to the data, it was ideal for the same person to conduct the analysis (Krueger, 1994). Prior to the start of transcription, the moderator listened to each tape to become familiar with the flow of dialogue. Quotes were directly transcribed using a word processing program while listening to the cassette tapes. A word processing program was chosen because it allowed the researcher to later sort, categorize and rearrange statements easily (Krueger, 1994). The moderator listened to and rewound each tape multiple times to accurately capture quotations. Transcripts were then reviewed to further identify preliminary themes and patterns. These initial themes and opinions became coding categories. Coding categories were used to identify key ideas in the combined focus groups, as described by Stewart and Shamdasani (1990). While keeping the initial objectives in mind, statements were sorted, categorized and rearranged into themes. Quotes were cut and pasted into coding categories using a word processing program. When necessary, themes were modified or further broken down into sub-themes. This systematic analysis was conducted independently by the moderator and an assistant to verify accuracy of interpretation. Focus group themes and results were reported using the descriptive summary method described by Krueger (1994) (see Appendix 5.6 and Table 5.4). This method included a descriptive summary of each theme followed by illustrative quotations for emphasis and clarity.

Focus Group Findings

Due to space concerns, this section presents a summary of the findings from the focus group discussions. They are based on the discussion themes and common feedback obtained from the transcription process. Table 5.4 lists the discussion themes and a summary of the feedback or responses from the participants. Appendix 5.6 presents the detail report of the focus group findings.

Table 5.4:   Summary of Focus Group Results

Discussion Theme	Responses/ Findings
Type of products bought	• Non perishable e.g. books, CDs, DVDs • Prefer services or products that could be delivered on-line.
Online pricing	• Value for money/Cheap • Received great online offers
Convenience obtained	• Flexible time 24/7- Shopping from home • Less hassle e.g. parking & stock availability • Relative advantages - mostly referred to convenience and price
Accessibility & availability	• Variety of products and services worldwide • Internet access almost everywhere
Trust concerns	• E-tailers' ability & competency • Reservation System/ Network • Payment by credit card • Anticipate risk but quite trustworthy
Delivery issues concerned	• Non-delivery or late delivery • Delivery time & cost • Product condition vs. Expectation • Hassle to return
Compatibility and Complexity	• No requirement for additional/ advanced technical skills • No effect of lifestyle / status • User friendly and easy process • Not complicated to perform
Web features/ store front	• Irritated by pop up menus • Impressed by colour/ design/ interface & customization but these do not affect purchase decisions • Like attractive websites, but do not effect the purchase decision directly.
Internet Shopping vs. Real shopping	• Still perform real shopping for most products mostly: Groceries, Convenience products & Emergency products • Use Internet to compare prices • Expected to conduct more online transaction in future
Experience	• Satisfaction in overall purchase experience • Offline tools/ adverts create awareness • Shopping process smooth & enjoyable • Portals provides more choice & ease of use • Enjoyment in browsing and searching • Could replace window shopping
Loyalty towards	• Established E-tailers' websites, e.g. Amazon, E-bay • Brand name rather than websites
Gender	• Females prefer to maintain real shopping for enjoyment in certain product categories, e.g. apparel and cosmetics • Males would like to reduce actual shopping as much as possible via online shopping • Females act faster than males when responding to online offers on travel packages.
New findings	• E-shoppers are very sensitive to pricing and offers. • E-shoppers prefer freedom in shopping & absence of sales people. • E-shoppers look for privacy in shopping. • E-shoppers normally predetermine what to purchase before searching.

Source: this study

The most prominent themes and issues were then extracted from the focus group findings for questionnaire design purposes. These qualitative findings were utilised to add insights and support for the conceptual framework development as well as theoretical background and literature review discussed in earlier chapters. Given that the aims of the research questions and the research objectives are to discover relationships among variables and propose a model of e-shopping adoption, the quantitative technique is clearly the most appropriate method. The focus group findings will be highlighted in Chapter 8 along with the questionnaire results.

5.3.4 Survey Questionnaire

Questionnaire survey research tends to be the most popular method and is generally utilised in descriptive and causal research designs. One of its distinctive features is that it enables the researcher to collect large amounts of raw data using a question and answer format (Hair et al., 2003). Questionnaire surveys put emphasis on collecting 'standardised' raw data that in turn permits the investigator to generate information to specifically address the key questions of how, who, what and when, pertaining to market factors and the environment, and their prime advantage is their capability to accept large sample sizes at relatively reasonable costs (Hair et al., 2003). As the background of the study is related to Internet technology and dealing with Internet users, there is strong justification for using the Internet as the medium of questionnaire distribution, also known as an online questionnaire or e-survey.

5.3.5 The Internet Survey

With the evolution of the Internet and the unlimited use of e-mail for business communication, Internet surveys (also known as e-surveys) are becoming a more widely used survey method. E-surveys can take many forms: they can either be distributed as e-mail messages sent to potential respondents or posted as www forms on the Internet.

E-surveys give the ability to conduct large-scale data collection (Couper, 2000) and provide an inexpensive mechanism for conducting surveys (Weible and Wallace, 1998), as costs per response decrease instead of increasing significantly as sample size increases, as is the case in conventional surveys (Watt, 1999). E-surveys are becoming increasingly common (Lazar and Preece, 1999) and research comparing online vs. postal surveys is starting to confirm that e-survey content results may be no different than postal surveys, yet they provide strong advantages of speedy distribution and response cycles (Swoboda et al., 1997; Yun and Trumbo, 2000). In summary, the rationale for adopting the e-survey in this study was due to its advantages, as summarized in Table 5.5.

Table 5.5: Rationality of Web-based Survey Selection

Advantages	Description
Cost-savings	It is less expensive to send questionnaires online than to pay for postage or for interviewers.
Ease of Editing/Analysis	It is easier to make changes to questionnaires and to copy and sort data.
Faster Transmission Time	Questionnaires can be delivered to recipients in seconds, rather than in days as with traditional mail.
Easy Use of Pre-letters	Invitations can be sent and responses received in a very short time, and enabling participation level estimates.
Higher Response Rate	Research shows that response rates on private networks are higher with electronic surveys than with paper surveys or interviews.
More Candid Responses	Research shows that respondents may answer more honestly with electronic surveys than with paper surveys or interviews.
Quicker Response Time & Wider Coverage	Due to the speed of online networks, participants can answer in minutes or hours, and coverage can be global. Potentially quicker response time with wider magnitude of coverage

Source: this study

Despite these advantages, the study also anticipated some weaknesses of the online data collection method by taking great considerations and precautions with respect to controllable issues such as sample representativeness, confidentiality and validity. These issues are further discussed in later sections.

5.3.6 Types of Internet Survey

Unlike conventional surveys, Internet surveys have distinctive technological and response rate characteristics that would affect how they should be designed, when they can be used and how they can be implemented. Two forms of e-surveys have emerged in the last fifteen years. The first, the asynchronous e-mail survey, dates back to 1986 (Kiesler and Sproull, 1986). The second, the synchronous web-based survey, started about 1994 (Kehoe and Pitkow, 1998).

E-mail Surveys

E-mail surveys are performed online by sending questionnaires to individuals via e-mail from a sample of e-mail addresses. The addresses could be drawn from databases, purchasing a list or gathering e-mail addresses from the Web or Usenet newsgroups. Using this method, a specialised group of individuals could be obtained, thus enabling control over who gets the questionnaire.

This method is obviously an easy, fast and inexpensive data collection strategy. Furthermore, it gives control to the researcher through the ability to send reminders to

those respondents who have not yet returned their questionnaires. Perhaps because of this capability, response rates are just as high for e-mail surveys as they are for traditional contact methods.

However, there are problems associated with this method that position it as an alternative approach. Firstly, the main concern is the technical skills required by (i) the researcher in designing the questionnaire and by (ii) the respondents in answering the incoming e-mail questionnaire. Respondents might face problems in typing their answers in the appropriate spaces of the questionnaire, or the compatibility of software versions could sometimes hinder their ability to view the questionnaire perfectly. Thus, this could increase the chance of tabulation errors and missing values.

Secondly, it is the nature of Internet users to avoid or delay replying to unexpected or unimportant e-mail. Questionnaires posted via e-mail might be deleted or forgotten by the respondent. This could reduce the percentage of feedback even though the survey has reached the right respondents.

Web-based Surveys

Internet surveys could also be posted on the Web or on electronic bulletin boards. Many companies post questionnaires on their homepages, web portals or other relevant websites. Respondents normally type answers into automated response mechanisms in the form of click buttons to indicate responses, drop down menus to select choices or blank areas for open-ended questions. Sometimes the purpose of these questionnaires is simply to gather statistics about visitors to a particular site (e.g. website registration) but sometimes it is more formal survey research. Usually researchers will post a web survey and then send e-mail and use other forms of publicity to direct respondents to the web site.

Similar to the e-mail survey, web surveys are fast, inexpensive and can be delivered nearly instantaneously worldwide without any postal charges or manpower costs. They can be easily converted to HTML files and do not need lengthy printing, collating and mailing time. Some researchers believe that web surveys reduce errors, as they present adaptive and computer-generated questions based on responses to previous questions. This could reduce the complexity and time involved for respondents.

In terms of database technology, web-based surveys provide the ability to automatically verify and store survey responses using database technology and an HTML user interface. On the other hand, responses from e-mail surveys could be either embedded directly within an e-mail message or attached as a word processed document that must be manually

transferred and entered into storage. Basically, the e-mail survey is a 'push' technology that allows researchers to directly communicate with potential respondents, while in web-based surveys, responses are collected based on the likelihood that web visitors will click and answer the questions.

After anticipating their relative strengths and weaknesses, this study utilizes both e-mail and web-based tools for the data collection process. E-mails are combined with web-based surveys, as e-mail is an excellent vehicle for inviting individuals to participate while the web-based survey is an efficient tool for data storage. The web-based questionnaire was designed utilizing the latest e-survey software known as SNAP 6. Initially, technical issues inhibited the use of web-based surveys, but new software and Internet related technology appear to be mitigating many of these technical limitations (Smith, 1997; Kehoe and Pitkow, 1998; McCoy and Marks, 2001). Prior to the selection, a few e-survey softwares were tested, from *QuestionPro.com*, *SurveyShack.com* etc. The ability to transfer survey responses directly into a database, eliminating transcription errors and preventing survey alteration by the survey respondents, is amongst the criteria for the selection of the web-based survey software used. The subsequent section presents the design of the e-survey utilised in this study.

5.3.7   Questionnaire Design

In this study, the design of the e-survey accommodated the principles of paper questionnaire design (Oppenheim, 1992; Dillman, 2000; Preece et al., 2002). These principles include the development of question scales and multiple choice answers, elimination of question bias through proper wording, and the use of clear, unambiguous and concise wording. Like postal surveys, the e-surveys included informed consent information, rating definitions and examples, rating scale formats such as Likert-type semantic differential scales and nominal scales, and a set of demographic items as suggested by Witmer et al. (1999) and Preece et al. (2002).

Open-ended questions were also included in the e-surveys, as many studies have found that respondents tend to write lengthier and more self-disclosing comments on e-surveys than they do on mail surveys (Kielser and Sproull, 1986; Loke and Gilbert, 1995; Bachmann and Elfrink, 1996; Schaefer and Dillman, 1998). However, this study has limited its open-ended questions, as it appears that attrition rates increase when using many open-ended questions requiring multiple items in the answers (Crawford et al., 2002) as well as using questions that are arranged in tables on web-based surveys (Knapp and Heidingsfelder, 2001).

The e-mail invitation for the e-survey was also important in this study, as it had the technical ability to track whether the delivered e-mail survey was opened, responded to or/and deleted as well as if the survey was undeliverable (Paolo et al., 2000). In terms of technicality, e-surveys should be designed to:

i. Support multiple platforms and browsers (Yun and Trumbo, 2000)

ii. Prevent multiple submissions (Yun and Trumbo, 2000)

iii. Have the ability to present questions in a logical or adaptive manner, if needed (Kehoe and Pitkow, 1998)

iv. Provide multiple opportunities for saving the work in long questionnaires (e.g., over 50 questions) (Smith, 1997)

v. Collect both quantified selection option answers and narrative type question answers (Yun and Trumbo, 2000)

vi. Provide feedback and a "thank-you" upon completion of the survey (Smith, 1997)

5.3.8 Survey Format and Layout

In this study, the e-survey consists of a questionnaire to elicit respondents' self-reported backgrounds, influences, experiences and purchase patterns of travel e-shopping. The survey uses a mix of multiple-choice questions and open-ended questions. In most questions, five-point Likert scales were used to provide a series of statements to which participants could indicate degrees of agreement or disagreement. The survey consists of 21 main questions categorized into 8 sections: (i) demographic information; (ii) general attitudes towards the Internet; (iii) travel e-shopping purchasing patterns; (iv) evaluation of perceived ease-of-use and usefulness; (v) evaluation of perceived risk and trust; (vi) evaluation of opinion leadership and innovativeness; (vii) evaluation of consumer involvement using a semantic differential scale; and (viii) the actual adoption and future usage of Internet shopping for travel services.

The questionnaire was presented in categories without question numbers, as a lengthy survey may discourage potential respondents and increases survey complexity (Pitkow and Recker, 1995). The questions were presented clearly, with few questions per frame, and respondents were required to click on the 'radio buttons' for the appropriate answers given either in multiple choices, Likert scale or semantic differential format. There was also a text box that allowed the respondents to fill in their additional thoughts at the end of the survey, as recommended by Pitkow and Recker (1995) and Nielsen (1999). However, no drop-down boxes or scroll bars were used, as this could cause respondents to accept unintentional defaults or miss questions (Gould et al., 1998).

The e-survey was pre-programmed not to accept incomplete questionnaires; this means that the respondents were unable to submit questionnaires until they were completed. Thus, respondents could not either accidentally skip some questions (Kehoe and Pitkow, 1998) or purposely ignore questions. Thus, the survey provides a non-response option such as 'Neutral' or 'No idea' for respondents who may not have the knowledge to answer every question and may be offended by being forced to (Gould et al., 1998).

Standard web terms and buttons such as 'Reset', 'Next', and 'Submit' were used on the survey pages as recommended by Huson (1999). To ensure that respondents could review and change their answers easily, they were provided with a 'Back' button (Gould et al., 1998) on every frame. Also, unanswered questions were highlighted (Kehoe and Pitkow, 1998) and reminders were given if respondents pressed the 'Next' button without completing all questions.

Prior to the survey launch, the e-mail invitation and web-based survey link were submitted to the Response Panel, an e-survey agent, for expert reviewing and technical checking via its e-survey network. Their feedback and suggestions were then incorporated, and subsequently sent to the supervisor panel for approval. The commencement of the e-survey took place in the middle of July 2004 and ended 2 weeks later; 300 Internet shoppers participated. Given the uncertainty of e-surveys and technical problems, the administration (i.e., dissemination, collection and storage) of the e-survey was maintained by the established Response Panel network. All users' responses were stored in their database system in a secure manner. The next section describes the pilot-testing process conducted prior to the data collection process.

5.3.9 Pilot Testing

Pilot testing refers to testing the questionnaire on a small sample of respondents to identify and eliminate potential problems (Hunt et al., 1982). In this study, pilot surveys were conducted to test all aspects of the questionnaire, including question content, wording, sequence, form and layout, question difficulty and the clarity of instructions. Additionally, the computer programming language, the instructions, data editing and coding, data processing and data tabulation were tested.

As indicated in Table 5.3, the pilot test was designed in 2 phases. In the first phase, the questionnaire was sent to 14 members of the academic staff of Cardiff Business School for comments and critical review. There were also some personal discussions with the academic staff to generate more input from the comments and suggestion made. Generally, most comments were regarding the comprehension of phrases used in the

questions, item sequencing and the presentation of the questions. This provided suggestions for the improvement of the sequencing and wording of items and the overall appearance of the questionnaire. The revised questionnaire then underwent the second phase, an actual pilot-test setting using the Internet as a survey tool.

Pilot testing is a critical part of an e-survey process as it provides the opportunity to test all aspects of the survey in advance, thus ensuring the smooth operation and success of the actual e-survey. Further, it is not only to make sure the target audience understand and respond to the questions in the expected way, but also to test the technical functionality of the e-survey (Gould et al., 1998). The effort put into conducting an e-survey is wasted if the e-survey networking set-up does not work correctly and efficiently even though the questionnaire is well tested. This pilot test also aims to establish initial reliability and content validity. The critical issues and problems encountered in both the questionnaire and the technical aspects at this stage should be corrected well before the start of the main survey.

As for the respondents for the pilot test, they were similar to those who would be included in the actual survey in terms of background characteristics, familiarity with the topic, and attitudes and behaviour of interest (Diamantopoulos, 1994). The respondents were recruited amongst Internet users who had conducted online shopping. Due to the problem of accessibility and privacy of public e-mail databases, respondents for the pilot test were recruited amongst postgraduate students, mostly from Cardiff Business School, using random sampling to select names from the Cardiff University website. E-mail invitations were sent to 100 recipients asking whether they had ever purchased travel services online and asking them to complete the online questionnaire if they had such experience. The e-mail invitations were linked to the online questionnaire, which was posted on a well-known hosting website, *Yahoo GeoCities*, with the address linked to *http://www.geocities.com/yusniza_72/survey/pilot.htm* (see Appendix 5.7). Then the survey website was open for approximately a month from June to July 2004. The results of the pilot test were processed to test the programs in the data processing system.

The feedback gathered from the pilot test was compiled and examined. Some modifications were made to the original questionnaire such as rewording and rephrasing sentences. There were no suggestions or comments received on the presentation of the e-survey or on technical problems. This implied that most respondents had not faced any hiccups with the software and system when responding to the survey.

5.3.10   Marketing E-survey

Coomber (1997) suggests exploiting an eye-catching subject heading and description in marketing an e-survey, which should be able to attract attention but without being too wordy. In this study, the e-survey title was presented on every webpage (frame) with a clear, large font and coloured background. Although images, animation and colour enhance survey presentation (Yun and Trumbo, 2000), they are disadvantageous in that they increase download time and may also affect the answers subjects do or do not provide (Couper et al., 2001). Thus, this e-survey did not fully utilize these presentation features, as surveys with multiple or graphic designs that do not make clear what the respondent is to do result in higher attrition (drop out) rates than those using more straightforward, plain designs (Dillman et al., 1998).

On an early page, it was mentioned that answering was voluntary and that there was no obligation to participate in the survey, and that participants had the right to discontinue the survey. There was also a statement about confidentiality and anonymity on the front page of the online questionnaire (see Appendix 5.7). The page also indicated the estimated time it would take to answer the survey (Gould et al., 1998). The estimated time to complete the survey was 15 minutes. The page number out of the total pages was also provided on each page/ frame of the survey as well as a 'percentage of completion' indicator at the top of each frame. This indicator acted as a guide to the respondents as they moved on by clicking the 'Next' button on each frame/ page.

Rewards in the form of money, vouchers or even real-time survey results have been found to increase e-survey response rates and/or rates of completion (Huson, 1999). However, the value of the reward could also influence the respondents; offering too little may not be sufficient incentive for people to take or complete the survey, but if the offer is too much, people may come to the site only because of the reward, and there might be a potential of getting unrepresentative samples. To encourage participation, this study offered the respondents the opportunity to enter into a lucky draw to win a £100 flight voucher sponsored by *BMIBaby.com* (see Appendix 5.10).

In summary, it is found that the e-survey application provides more design options and flexibility compared to paper-based surveys. It also provides control over respondents of the survey. However, web-based surveys are more challenging to design and more technically difficult to implement as compared to paper-based questionnaires.

5.4 Sampling Techniques

Sampling is a crucial method for increasing the validity of the collected data and ensuring that the sample is representative of a population. It is a procedure that uses a small number of units of a given population as a basis for drawing conclusions about the whole population (Pedhazur and Schmelkin, 1993; Zikmund, 1997).

Couper (2000) provides a typology for web-based survey sampling techniques. There are several options for e-survey sampling in this topology, including non-probability sampling and probability-based sampling.

i. **Non-probability Sampling**

There is no attempt to statistically sample the online population, although some claims for scientific validity are sometimes made. The methods include:

a. *Self-selection* - In self-selection, web-based survey invitations are posted to participants at multiple online locations.

b. *Volunteer panel of Internet users* - Subjects are selected for the panel by submitting demographic information at a portal, then are asked to participate in a survey by invitation only.

ii. **Probability-based Sampling**

This method begins with knowledge of a sampling frame and with information on the process of recruitment that permits measurement of sources of non-response, which can inform design-based adjustment approaches. The methods include:

a. *Intercept* - Intercept surveys target visitors at a particular website, asking every n^{th} visitor to participate in the survey, similar to an election exit poll.

b. *List-based high-coverage* - list-based samples of high-coverage populations start with a frame or list of those with web access. E-mail invitations are sent to either to everyone or to a group on the list.

c. *Mixed-mode design with choice of completion method* – in this method, the web-based survey is just one alternative for response alongside other conventional ways to collect the same data.

d. *Pre-recruited panels of Internet users* - with pre-recruited Internet user panels, panel members do not self-select, but are recruited using probability sampling methods such as RDD (random digital dialling).

e. *Probability samples of full populations* – This type provides subjects with the equipment and tools necessary to participate. Couper (2000) believes it is the only approach that allows generalization beyond the current populations of Internet users.

From the above typology, the mismatch between the general population and the sampling frame and random sampling within the sample frame are the biggest threats to inference from web-based surveys to general populations (Couper, 2000). This is because first, people who participate in e-surveys are different than the general population and second, on the Web, a sampling frame of all online users cannot be identified. Many researchers also found it impossible to draw a random sample from a complete or nearly complete list of Internet users, which, in addition, makes it impossible to track non-response rates (Kehoe and Pitkow, 1997).

Some studies show that those who participate in web-based surveys may be more experienced, more intense Internet users, and have stronger Internet skill sets than those who do not participate in the surveys (Kehoe and Pitkow, 1997). They may be predominately male, younger and from households with fairly high incomes (Sheehan and Hoy, 1999). Furthermore, Yun and Trumbo (2000) found that those who returned electronic surveys tended to have high connectedness with their profession, more education, a greater number of contacts with other colleagues, a greater volume of e-mail use and more task-related e-mail then those who completed the paper survey. Further, Zhang (2000) discover that web-based survey respondents had a higher self perceived ability to use the Internet, used the Web more often, were seven years younger in mean age, but did not differ significantly in years of Internet experience, Web access or gender from those who responded using fax or postal mail.

As mentioned earlier, the limited accessibility of UK Internet shoppers' e-mail databases due to security, privacy and confidentiality issues has influenced this study to acquire a consumer e-mail database from Response Panel, an e-survey agent. Based on the database and considering the parameters imposed, probability sampling was deployed. Probability sampling takes place when the probability of the selection of each respondent is known, With this, statistical inferences on the chosen sample of Internet shoppers could be made in this study. The selected respondents from the Response Panel could represent the total population of Internet shoppers, and this approach also permits generalizations.

5.4.1   Sample Size

Since this study is utilizing SEM to test the proposed structural model and hypotheses, sample size is a critical issue for the statistical analysis and its assumption tests. It is also a vital factor in determining the extent to which the procedures of the existing model evaluation can be reliable. In general, there is no standard sample size in the absolute sense, and larger samples are always preferable. However, it is suggested in SEM that it is

acceptable if a minimum ratio of at least 5 respondents for each estimated parameter can be achieved (Hatcher, 1994) although it is more appropriate if a ratio of 10 respondents per parameter is obtained (Hair et al., 1998). Furthermore, there are a number of factors that impact the sample size requirements, including model misspecification, model size, departures from normality and estimation procedures (Hair et al., 1998).

As a result, it is recommended that for a maximum likelihood estimation (MLE), the most common estimation procedure, a sample size of 200 is appropriate. More specifically, since the acceptable level of the final model in SEM is evaluated based on the model fit indices, determination of sample size in this study follows previous study results and suggestions. Several studies have reported that there is an association between sample size and the model fit indices, including the incremental fit indices and the absolute fit indices (Anderson and Gerbing, 1984; Bollen, 1989a & 1989b; Hu and Bentler, 1995). As a result, the model and number of fit indices such as *Goodness-of-fit Index, Adjusted Goodness-of-fit Index, Non-normed Fit Index* and *Comparative Fit Index* are relatively and consistently stable across the MLE method at a sample size of 250 or greater when the latent constructs are independent (see Chapter 7). The next section proceeds with the steps taken in the sample selection process.

5.4.2   Sample Selection

A population can be defined as the entire group under study as specified by the objective of the research (Pedhazur and Schmelkin, 1993; Burns and Bush, 1998). Since the main objective of this study was to investigate the antecedents of Internet shopping adoption and identify the profiles of Internet shoppers for travel services, the population for this study was supposed to be Internet shoppers. Specifically, the target population for this study includes all UK consumers who conduct online shopping.

As mentioned previously, the Internet shoppers from the *Response Panel* database were not self-selected, but were recruited using probability sampling methods where e-mail addresses were picked at random by a generated sampling system, similar to RDD (random digital dialling).

Table 5.6: The Sampling Procedure

Sampling Step	Responses
E-mail sent for screening of potential respondents	1834
Replied	704
Qualified	483
E-mail sent for actual survey invitation	483
Replied	300
Qualified	299

As shown in Table 5.6, the initial e-mails were sent to 1834 respondents, randomly picked by the system from the *Response Panel* database. These e-mails were sent with a link to a simple multiple-choice screening question asking about the types of product that the respondents had purchased over the Internet (see Appendix 5.8). A total of 704 respondents replied to the question stating various types of products they had purchased online. From this number, only 483 respondents indicated that they had purchased travel services online. This means that 483 respondents were qualified for the actual survey (see Appendix 5.10), which also indicates the sample size for the study. In the actual survey, e-mail invitations were sent to all 483 respondents (see Appendix 5.9 and 5.10). With the given research budget, the survey was limited to the first 300 replies. A total of 300 replies were received in less than two weeks after the survey was launched. All answers were re-checked to establish whether they had actually purchased travel services online and only one unqualified respondent was found to have completed the survey. This respondent might have made a mistake in the screening question sent before the actual survey commenced by selecting travel service as a product that had been purchased online. This respondent was excluded in the analysis, which left a final useable sample size of 299 respondents.

In summary, in e-survey methods, it is often found that the response rate tends to be low, within a range between 10 percent and 50 percent, depending upon the study design, sample and study site, leading to the potential problem of generalizing the results. Therefore, in order to meet the sample size for this study, as well as getting the right respondents to the survey, a careful selection process was implemented using the acquired database. Ultimately, this study has achieved a final sample size above the 250 (i.e. 299) responses that were required to satisfy the criteria of SEM, using probability sampling within the Response Panel e-mail database. The next section describes the methods used in developing the research measures and scale.

5.5   Measurement and Scaling

As discussed in the Conceptual Framework chapter (see Chapter 4) the theoretical model of this study was designed to empirically test the structural relationships among **Consumer Innovativeness, Consumer Involvement, Opinion Leadership** and **Perceived Ease-of-Use, Perceived Usefulness, Perceived Risk, Trust** and **Adoption** constructs.

A construct (also known as a latent variable) is a hypothesized and unobserved concept that can only be measured by observable or measurable variables (Bollen, 1989a; Hair et al., 1998). The measurement variables or scales are collections of items intended to reveal levels of theoretical variables to measure the construct (DeVellis, 1991). Accordingly, the measurement scales are developed to measure phenomena that are believed to exist because of a theoretical underpinning or observations, but cannot be assessed directly. As a result, this measurement enables one to assign numerals to objects, events, or observable phenomena with different degrees of a quality or property (Duncan, 1984).

The measures in this study were either adapted from established scales or developed from prior established studies (see Table 5.7). Participants were asked to express the extent of their agreement or disagreement using a five-point Likert scale, ranging from *(1) strongly disagree* to *(5) strongly agree*, except for *Consumer Involvement* scales, which were assessed based on a five-point Semantic Differential scale. The context of all questions was the use of Internet in shopping travel services, which was stated in the instruction preceding each construct.

Table 5.7: Constructs Measures, Dimensions and References

Constructs	Dimension	Items	Developed / Adapted from
Perceived Usefulness Scale	Conveniences Control on purchase Offers/ pricing	1. Internet shopping for travel services gives me greater control over my purchase decision 2. Internet shopping for travel services enables me to save my time 3. Shopping for travel services via the internet is more convenient than visiting travel agent outlets 4. Internet shopping makes it possible to shop for travel services at my convenience (anytime, anywhere) 5. Internet shopping enables me to buy travel services at special rates/ offers 6. Using the internet to shop for travel services can increase my shopping effectiveness 7. Overall, I find shopping for travel services on the Internet to be useful	Davis, 1989
Perceived Ease-of-use Scale	User-friendliness Uncomplicatedness Informative	1. I find using the Internet for shopping for travel services to be confusing 2. It is easy to deal with instructions & menus given on websites while shopping for travel services 3. It is easy for me to become skilful at using the Internet to shop for travel services 4. I find it easy to search for travel information via the websites I use 5. Shopping for travel services via the Internet requires advanced computing skills 6. Overall, I find it easy to use the Internet to shop for travel services	Davis, 1989
Perceived Risk Scale	Financial Risk Product Risk Technology Risk Privacy Risk Payment Risk	1. The cost of purchasing a travel service on the Internet can end up being higher than expected 2. If a travel purchase cost more than, say £1000, I would rather not pay this on the Internet 3. The quality of the travel services purchased from the Internet generally does not meet my expectation 4. I feel uncertain whether travel retailers are efficient in dealing with sales transactions on the Internet 5. Using the Internet to shop for travel services would lead to a loss of privacy 6. I am uncomfortable giving my credit card number when booking for travel services on the Internet 7. Overall, it is risky to shop for travel services via the Internet	Jacoby and Kaplan, 1972; Korgaonkar, 1982; Jarvenpaa and Todd, 1997; Mitchell, 1999;
Trust Scale	Trust in technology or systems Trust in retailers	1. I trust the Internet reservation/ booking systems when shopping for travel services 2. I trust the Internet payment/ transaction systems when shopping for travel services 3. I trust that web travel retailers have sufficient expertise to perform business on the Internet 4. I trust that web travel retailers keep my best interests in mind 5. In overall, I don't trust shopping for travel services via the Internet	Jarvenpaa et al., 1999

Constructs	Dimension	Items	Developed / Adapted from
Consumer Involvement Scale (PII)	Internet Shopping Involvement	1. Unimportant - Important 2. Boring - Interesting 3. Irrelevant - Relevant 4. Unexciting - Exciting 5. Unappealing - Appealing 6. Worthless - Valuable 7. Uninvolving - Involving 8. Not Needed - Needed 9. Foolish - Wise	Zaichkowsky, 1994
Adoption Scale	Expected future usage Intensity of current usage Overall evaluation and satisfaction	1. I used the Internet every time I need to purchase travel services 2. I want to continue using Internet shopping for travel services in the future 3. I expect my usage of Internet shopping for travel services to increase in the future 4. I consider myself as a frequent Internet shopper for travel services 5. Overall, I feel I have adopted Internet shopping for travel services 6. Overall, I am satisfied when shopping for travel services via the Internet 7. My overall evaluation of the services provided by web travel retailers is that they are excellent	Davis et al.,1989; Rogers, 1995; Schillewaert et al., 2000
Consumer Innovativeness Scale (DSI)	Innovators or early adopters characteristics	1. In general, I am among the first in my circle of friends to buy travel services from the Internet 2. Compared to my friends, I shop for travel services via the Internet more often 3. I will visit a new travel website even if I am not familiar with it 4. I shop for travel services on the Internet as I see it works for many people around me 5. I shop for travel services on the Internet when I see vast majority of people around me accept it	Goldsmith and Hofacker,1991
Opinion Leadership Scale	Source of information Word-of-mouth	1. I never talk to my friends and neighbours about shopping for travel services via the Internet 2. In a discussion of Internet shopping for travel services, I like to convince my friends of my ideas 3. Amongst my friends, I am often used as a source of advice about Internet shopping for travel services 4. In the past 6 months, I have told a number of people about Internet shopping for travel services	Childers, 1986

5.5.1 Development of Research Measures

In this study, the procedure used to develop the research constructs was based on the guidelines suggested by Churchill (1979). Figure 5.3 illustrates the five steps involved in developing and testing constructs of interest in this study. The descriptions on the right side of the box indicate the method undertaken by the present study for each step. Steps 1 to 3 were explained in detail in the previous section of data collection techniques (see Section 5.3) while Steps 4 and 5 are elaborated in the subsequent sections.

Figure 5.3: Procedure for Developing Measures
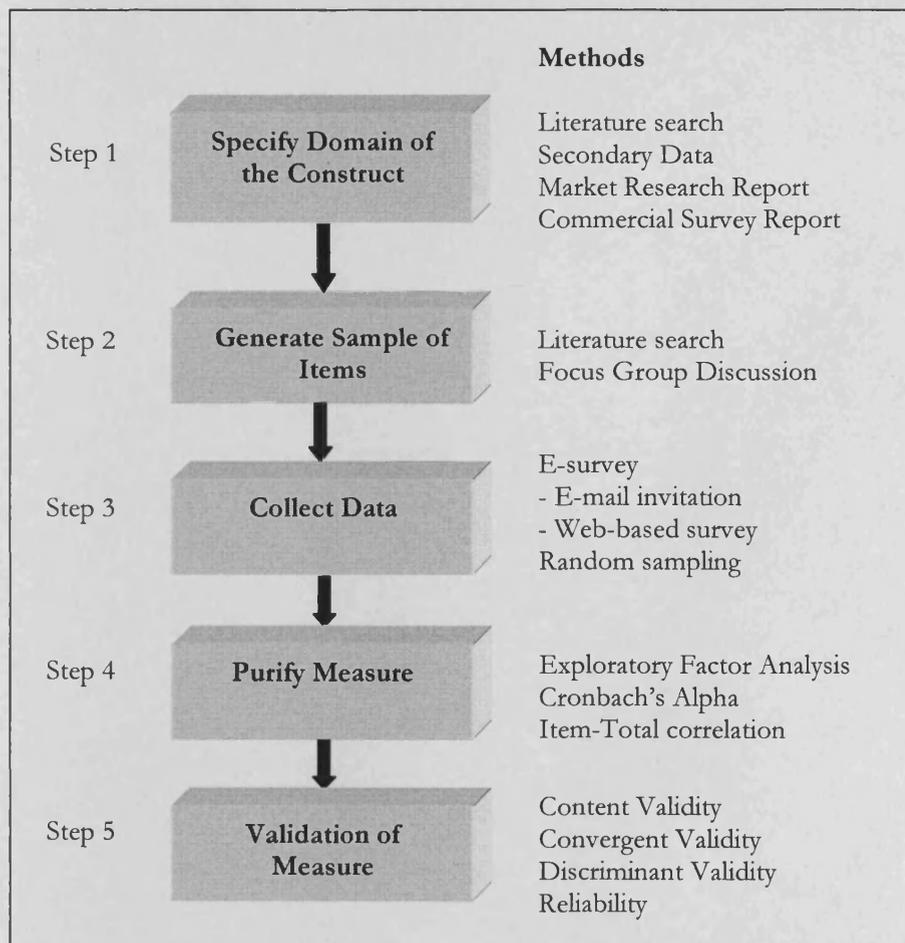
Sources: Adapted from Churchill (1979) cited from Churchill and Iacobucci (2002)

5.5.2 Exploratory Factor Analysis

In step 4 of Figure 5.3, Exploratory Factor Analysis (EFA) is used to analyze the structure of the correlations among a large number of multiple variables (multivariate) based on a set of common underlying dimensions (Hair et al., 1998). EFA helps to determine whether a certain set of items does or does not constitute a construct (Straub, 1989). Further, in EFA, (i) separate dimensions of the structure are identified and the extent to which each variable

is explained by each dimension is determined, and (ii) the number of variables is reduced through summarization and data reduction (Hair et al., 1998).

Hair et al. (1998) recommend that researchers should ensure that the data matrix has sufficient correlations to justify the application of EFA. The Kaiser-Mayer Olkin Measure of Sampling Adequacy (MSA) and Bartlett's Test of Sphericity (BTS) are conducted to assess the suitability of the survey data for factor analysis (see Chapter 6).

To test for instrument validity, principal component factor analysis utilizing the promax rotation technique with Kaiser Normalization was performed using SPSS 12. As stated by Hair et al. (1998), the choice of an orthogonal or oblique rotation should be made on the basis of the particular needs of a given research problem. If the purpose is to reduce the number of original variables, regardless of how meaningful the resulting factors may be, orthogonal rotation methods will be appropriate. However, if the purpose of the factor analysis is to obtain several theoretically meaningful factors or constructs, an oblique solution is the appropriate approach. **In this study, promax rotation, an oblique rotation method, was chosen since the independent variables are not assumed to be completely unrelated. This conclusion is reached because, *"realistically, very few factors are uncorrelated, as in orthogonal rotation"* (Hair et al., 1998, p. 111). The results of the EFA tests are later discussed in Chapter 6, in relation to the reliability and validity of the research measures.**

5.5.3   Reliability of Research Measurement

The precise measurement of hypotheses or theoretical constructs is usually the fundamental issue in many area of research, whenever variables are difficult to observe. In this section, the steps taken to establish the reliability and validity of the survey instrument are discussed.

Reliability refers to the state when a scale yields consistent measures over time (Straub, 1989). The assessment of scale reliability is based on the correlations between the individual items or measurements that make up the scale, relative to the variances of the items. Scale reliability is considered as the proportion of variance attributed to the true score of the latent construct (DeVellis, 1991). Latent constructs are usually measured by internal consistency reliability, which indicates the homogeneity of items comprising a measurement scale. Internal consistency is the extent to which tests or procedures assess the same characteristic, skill or quality by measuring the inter-item correlation. High inter-item correlation indicates that the items of the scale have strong relationships to the latent construct and are possibly measuring the same thing.

Another indicator that is commonly used to assess reliability is Cronbach's alpha coefficient (Cronbach, 1951). It has been proposed as the most appropriate means of assessing reliability in marketing research (Peter, 1979). Nunnally (1978) has indicated .70 to be an acceptable reliability coefficient but lower thresholds are sometimes used in the literature. However, if the scale has a coefficient alpha below .70, the scale should be examined for any sources of measurement errors such as inadequate sampling of items, administration errors, situational factors, sample characteristics, number of items, and theoretical errors in developing the measurement scale (Gable and Wolf, 1993). Other methods to assess the reliability of constructs are through the composite reliability and variance extracted. The variance extracted method is also used to measure construct validity, which is calculated and reported in the assessment of convergent validity.

In this study, to measure the scales' reliability, Cronbach's alpha scores were first calculated based on the average inter-item correlations, which were used to measure internal consistency. As stated by Straub (1989, p. 151.), "high correlations between alternative measures or large Cronbach's alphas are usually signs that the measures are reliable". There is no standard cut-off point for the alpha coefficient, but the generally agreed upon lower limit for Cronbach's alpha is .70, although it may decrease to .60 (Hair et al., 1998) or even .50 (Nunnally, 1978) in exploratory research. Subsequently, composite reliability was evaluated using the guidelines of Barclay et al. (1995) with .70 as the acceptable value. The formula used to derive the composite reliability is:

$$= \frac{(Sum\ of\ standardised\ loadings)^2}{(Sum\ of\ standardised\ loadings)^2 + Sum\ of\ indicator\ measurement\ error}$$

Or

$$= \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum (1 - \lambda_i^2)}$$

Where λ_i is the factor loading for a specific item that measures a construct.

The results of the reliability test of each measurement scales are discussed in Chapter 6, together with the result of the validity test.

5.5.4   Validity of Research Measurement

While reliability is concerned with the accuracy of the measuring instrument, validity is associated with whether a particular construct is the underlying cause of item covariation (DeVellis, 1991). Validity usually refers the extent to which the measurement items or indicators measure what they are supposed to measure (Hair et al., 1998). A central part in the development of any scale is establishing its content validity, construct validity, unidimensionality and reliability (Straub, 1989).

Content validity is the extent to which a measure adequately and comprehensively measures what it claims to be measuring. It is concerned with sample-population representativeness; for example, the knowledge and skills covered by the test items should be representative of the larger domain of knowledge and skills. Bias generated by an unrepresentative instrument will carry over into uncertainty in the results. As a result, there is no easy way to determine content validity aside from expert opinion. In this study, content validity is established through the literature review and through expert judgement (Cook and Campbell, 1979; Cronbach, 1971). The process applied is explained in the beginning of this section (see Figure 5.3).

Construct validity deals with the adequacy of a scale as a measure of a specific variable. It seeks agreement between a theoretical concept and a specific measuring device or procedure. Construct validity can be sub-categorised into: (i) *convergent validity* and (ii) *discriminant validity*. In order to claim the validity of an instrument, it is necessary to establish both convergent and discriminant validity (Trochim, 2002). Convergent validity refers to the state when items measure their intended construct and no other construct, whereas discriminant validity is confirmed when the construct as a whole differs from the other constructs (Straub, 1989). Detailed descriptions of the two forms are as follows:

i.   Convergent validity

Convergent validity is the degree to which a measure relates to other characteristics that are conceptually similar to what it is supposed to assess. It is the actual general agreement among ratings, gathered independently of one another, where measures should be theoretically related. Convergent validity test is to determine if the scale items load together on a single construct in the model (Garver and Mentzer, 1999). An item has convergent validity if it has a high correlation with another item that measures the same construct. Item to-total correlation (ITC) is commonly used to assess convergent validity.

There are two types of approach that can be used to assess the validity of an instrument: classical and contemporary approaches (Bagozzi et al., 1991). Classical approaches include the multi-trait method technique (Campbell and Fiske, 1959) or principal components analysis of EFA (Straub, 1989), whereas the contemporary approaches include confirmatory factor analysis utilizing maximum likelihood extraction such as from SEM. In recent years, the use of SEM techniques for instrument validation and testing has become popular in the IS domain. However, the use of this technique requires a large sample size (see Section 5.4.1). As a rule of thumb, 20 observations per item would be needed to analyze a comprehensive measurement model.

Therefore, in this study the measurement instruments were validated in two stages using both approaches. First, the measurement items were refined and validated using the most commonly used classical approach via EFA (results reported in Chapter 6), then in the second stage of SEM analysis, the constructs were again validated using Confirmatory factor analysis (results reported in Chapter 7).

ii.   Discriminant Validity

The discriminant validity indicates the extent to which a given construct differs from other constructs (Barclay et al., 1995). It refers to a measure of the indicators of dissimilar constructs that theoretically and empirically should not be related to each other (Hair et al., 1998).

Apart from the EFA and SEM, another indicator that can be used to measure both reliability and convergent validity is the Average Variance Extracted (AVE). It measures the percentage of variance captured by a construct by showing the ratio of the sum of the variance captured by the construct and its measurement variance (Gefen et al., 2000).

The AVE equation is:

$$= \frac{Sum\ of\ squared\ standardised\ loadings}{Sum\ of\ squared\ standardised\ loading + Sum\ of\ indicator\ measurement\ error}$$

Or

$$= \frac{\sum \lambda_i^2}{\sum \lambda_i^2 + \sum \left(1 - \lambda_i^2\right)}$$

Where λ_i is the factor loading for a specific item that measures a construct.

Fornell and Larcker (1981) state that if AVE is less than .50, then the validity of the individual items and the construct is questionable.

Discriminant validity can be evaluated by comparing the average variance extracted (AVE) values associated with each construct to the correlations among constructs (Staples et al., 1999). The result of the discriminant validity of this study is presented in a table by comparing the square root of the AVE value with the correlations among constructs. In order to claim discriminant validity, the square root of the AVE should be larger than any of the correlations among constructs (Barclay et al., 1995; Staples et al., 1999) (see Chapter 6). Apart from Chapter 6, Chapter 7 also presents the results of reliability and validity tests using the SEM methods and indicators.

5.6 Data Analysis Techniques

The selection of appropriate data analysis techniques is the most difficult part of the research process. Kinnear and Taylor (1991) suggest three basic guidelines in an attempt to identify the appropriate statistical technique to adopt. They are:

i. How many variables are to be analysed at the same time?

ii. Does the researcher want to address description or inference questions?

iii. What level of measurement (nominal, ordinal, and interval) of the variable of interest is available?

Generally, if only one variable is to be analysed at a time, this is known as univariate data analysis, whereas if a relationship between two variables at a time is investigated, it is known as bivariate data analysis. Assessing the relationship of more than two variables at a time is called multivariate data analysis. In the current study, a combination of the above statistical analysis was employed. **Table 5.8 exhibits a summary of the statistical techniques employed for the data analysis and subsequently the results of the analyses, which will be documented in Chapters 6 and 7. Then detailed explanations of each method of analysis are presented in the following sections.**

Table 5.8: Summary of Statistical Techniques for Data Analysis

Classification	Types	Techniques/ Indicators	Chapter
Univariate	Descriptive analysis	Percentage frequency scores Central tendency (Mean) Dispersion (Std. Deviation)	Chapter 6
Bivariate	Descriptive analysis	T-test / Chi-square • Compare Means • Probability significance	Chapter 6
Multivariate	Scale reliability and validity analysis	Reliability Test • Item-total correlations • Cronbach's alpha Exploratory Factor analysis • Kaiser-Mayer Olkin's Measure of Sampling Adequacy test and Bartlett's Test of Sphericity • Factor loadings • Composite reliability • Average variance extracted • Confirmatory Factor analysis (by AMOS)	Chapter 6 Chapter 7
	Regression analysis	Test of assumptions • Multicollinearity • Multiple outliers • Homoscedasticity, Linearity and Normality Model tests • Standardize regression coefficients • T-value, significant value and Collinearity • F-value, R, R^2 and adjusted R^2	Chapter 6
	Structural Equation Modelling (by Analysis of Moment Structures/ AMOS)	Measurement model • Confirmatory Factor analysis • Fit indices measure Structural model • Absolute fit measures • Incremental fit measure • Parsimonious fit measure	Chapter 7

5.6.1   Descriptive Statistics

Descriptive statistics is a branch of statistics that sets out to summarise data that have been collected. Typically, it will provide estimations of the central tendency (mean), dispersion (standard deviation) and shape (skewness and kurtosis) of the distribution. Generally, preliminary data analysis involves examination of the response frequencies and other descriptive statistics applied to the variables included in the study. Chapter 6 of this thesis is allocated to presenting the results of the descriptive analysis, which are mostly related to the backgrounds of the respondents and their shopping patterns and

frequencies. There are also some t-test results between early adopters and later adopters of Internet shopping. This bivariate analysis aims to identify whether there are differences between the demographic backgrounds of the two groups of adopters.

5.6.2   Level of Measurement

As described earlier, all the constructs integrated in the conceptual framework of this study were uniformly measured on the basis of five-point semantic differential scales and Likert-type scales. Many researchers suggest that these types of scales fulfilled the interval measurement approximations for the purposes of the data analysis employed in this study (Naumann and Giel, 1995; Kline, 1998; Allen and Rao, 2000; Byrne, 1995 & 2001). *Interval scales* allow valid inferences concerning distribution metrics such as mean values and standard deviations, and most importantly, are appropriate for multivariate statistical analysis (Hair et al., 1998; Allen and Rao, 2000). Most multivariate statistical procedures assume that data are ordinal if fewer than five points are used (Allen and Rao, 2000).

Besides, the respondents' background information, shopping pattern and frequency of purchase were measured on the basis of both *nominal and ordinal scales*. These are reported in Chapter 6 and in the descriptive analysis mentioned above. Also, it is important to note that the scale reliability and validity analysis techniques, which are comprised of Item-Total Correlation, Cronbach's Alpha Coefficient and Factor Analysis, have been discussed in previous sections, and hence these analyses are not described in this section. Next, we will examine the main statistical analysis technique that was employed to test the hypotheses formulated for the study, which is Structural Equation Modelling (SEM).

5.6.3   Hypothesis Test Method

The properties of the eight research constructs in the proposed structural model, as presented in the preceding chapter (see Chapter 4), and the fifteen hypotheses were tested using the multiple regression technique with SPSS and AMOS 5.0 package for structural equation analysis and procedures (Byrne, 2001). In the initial stage, a normal regression analysis is conducted to obtain an idea about the relationships amongst constructs before the more advanced statistical analysis is used. The simple regression model is presented in Chapter 6, followed by the SEM hypothesis test in Chapter 7. In SEM, as an estimation method for model evaluation and procedures, the maximum likelihood (ML) method (see Bentler, 1983; Anderson and Gerbing, 1988; Byrne, 1998; Mueller, 1996) and the two stage testing processes (see Anderson and Gerbing, 1988; Sethi and King, 1994; Hair et al., 1998) were utilized.

SEM is designed to evaluate how well a proposed conceptual model that contains observed indicators and hypothetical constructs explains or fits the collected data (Bollen, 1989a & 1989b; Hoyle, 1995). It also provides the ability to measure or specify the structural relationships among sets of unobserved (latent) variables, while describing the amount of unexplained variance (Hoyle, 1995; Byrne, 1998; Davies et al., 1999; Tuner and Reisinger, 2001).

As this study is designed to measure structural relationships among the unobserved constructs that are set up on the basis of relevant theories and prior empirical research and results, the SEM procedure is an appropriate solution for testing the proposed structural model and hypotheses for this study. According to Byrne (1998, p.3), the SEM is "*a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the multivariate analysis of a structural theory bearing on some phenomenon*". A structural theory is used to explain relationships among multiple variables or constructs. The processes in structural equation modelling are represented by a series of structural equations and relations that can be modelled pictorially to enable a clearer conceptualization of the theory under study. Thus, through the SEM procedure, the simultaneous examination and explanation of the pattern of a series of inter-related dependence relationships among a set of latent (unobserved) constructs is possible (Reisinger and Turner, 1999).

5.6.4   Basic Concepts of SEM

Since its introduction more than two decades ago, this major breakthrough in the field of multivariate analysis began to gain attention in consumer research, which was further spurred by the development of the first computer programme to implement this general procedure (LISREL), while the publication of Bagozzi's (1980) book 'Causal Models in Marketing' further added to its substantive growth (Mackenzie, 2001).

Bryne (2001) indicates that SEM is typically characterised as a statistical technique that is confirmatory in nature and typically portrays the 'causal' relationships of multiple variables. It is comprised of two distinctive features: (i) the causal processes, as mentioned above, are established by a series of structural (i.e. regression) equations, and (ii) the structural relationships are depicted pictorially to enable clearer visualisation of the proposed theory. The entire system of variables in the hypothesised model can be estimated and tested simultaneously to establish the adequacy of fit of the model with the sample data. If the goodness-of-fit of the hypothesised model is satisfactory, the model is regarded as plausible, and thus the stipulated interrelationships of variables in the model are tenable.

There are two typical classifications of variables in SEM analyses, *latent and observed variables*. Latent variables represent theoretical constructs (i.e. abstract concepts) that cannot be observed directly, sometimes regarded as factors. In turn, latent variables can be *exogenous* or *endogenous*. An exogenous variable is an independent latent variable which acts as a predictor for other variables, while endogenous or dependent variables are determined by other variables within the model (Bollen, 1989a). Since latent variables are unobservable, logically their measurements are derived indirectly. This is accomplished by linking the unobserved variable to one of the observed (manifest) variables. In the SEM context, they serve as indicators of the underlying construct they are expected to represent (Byrne, 1994). As such, for this reason the credibility of a study is critically dependent on the observed variables, which are presumed to represent the underlying latent construct (Bryne, 2001).

The core of the SEM technique can be conceived as a fusion of path analysis, confirmatory factor analysis and the evaluation of hybrid models which have features of both of these analysis procedures (Kline, 1998). The path analytic element of the model emphasises the structural relationships between constructs integrated in the proposed model, whereas the factor analytic facet focuses on reliability, validity and the degree of the items' quality in representing the measure (Dillon et al., 1987). Alternatively, SEM is also viewed as an amalgam of multiple regression and factor analysis in one statistical device. It includes one or more linear regression equations that describe how the exogenous construct is influenced by the endogenous constructs, and their coefficients are called path coefficients or regression weights.

SEM differs significantly from the older generation multivariate analysis such as multiple regressions and exploratory factor analysis in various aspects (Bollen and Long, 1993; Fornell, 1992) such as:

i. Multiple regression limits the researcher to exploring interrelationships among dependent variables, and furthermore only a single relationship between dependent and independent variables can be examined at any one time. Even though statistical techniques such as multivariate analysis of variance (MANOVA) and canonical correlation accept the estimation of multiple dependent variables, they only permit a single relationship between the dependent and independent variables to be examined at any one time (Hair et al., 1998)

ii. SEM is an *a priori technique,* and thus requires researchers to conceptualise it in terms of a model, by specifying variables' directionalities and effects among them. It has been argued that *a priori* does not mean exclusively confirmatory; rather, SEM is

widely applied as a blend of exploratory and confirmatory analysis (Jöreskog, 1993; Kline, 1998)

iii. It is able to take account of measurement error in the estimation procedure (this error threatens the validity of research findings).

iv. The system of structural equations is comprised of both unobserved (i.e. latent) and observed (i.e. manifest) variables and it allows these two types of variable to be explicitly represented, thus making it possible to test a wide variety of hypotheses.

Given all these desirable characteristics, SEM has become an indispensable analytical technique for testing and developing theories (and is viewed as a more powerful method than other traditional multivariate procedures (Bryne, 1994 & 2001; Maruyama, 1998; Mackenzie, 2001); The following section describes the SEM steps and procedures adopted in this study to establish the best model to explain the adoption of travel e-shopping.

5.6.5   SEM Procedural Steps

The increasing attention to the assessment of measurement properties has led this study to adopt an established process in the data analysis with SEM. An eight-stage process was adopted from Koufteros (1999) for use in this study (see Figure 5.4). The process consists of (1) data preparation and screening; (2) item purification; (3) confirmatory factor analysis; (4) convergent validity fit and unidimensionality assessment; (5) construct reliability; (6) discriminant validity; (7) structural model and (8) competing models. The SEM analysis steps were adopted for two reasons. First, these procedures draw attention to the distinction between the measurement model, which relates the constructs to their measures, and the structural model, which relates the constructs to each other. Second, they also provide much more rigorous tests of construct reliability, convergent validity and discriminant validity (e.g., Bagozzi, 1980; Fornell and Larcker, 1981; Gerbing and Anderson, 1988).

As shown in Figure 5.4, in SEM there are two distinct components, commonly known as a two-step model: (1) the measurement model and (2) the structural equation model. Thus, the results of the SEM data analysis are discussed in two parts of Chapter 7: Part 1: The Measurement Model and Part 2: The Structural Model.

Figure 5.4: SEM Data Analysis Process

Step 1 Data Preparation and Screening
- ✓ Outliers
- ✓ Normality

Step 2 Item Purification
- ✓ Item-Total Correlations
- ✓ Exploratory Factor Analysis
- ✓ Cronbach Alpha

Step 3 Confirmatory Factor Analyses
- ✓ Specification
- ✓ Identification

Step 4 Convergent Validity
- ✓ t-values (critical ratio)
- ✓ Square multiple correlations

Step 5 Fit and Unidimensionality Assessment
- ✓ Fit indices
- ✓ t – values > ±1.96 at p= .05

Step 6 Construct Reliability
- ✓ Item and Composite reliability
- ✓ Average variance extracted and Cronbach alpha

Step 7 Discriminant Validity
- ✓ Correlation between factors
- ✓ X^2 difference between paired constructs
- ✓ Average variance extracted vs. Squared correlations
- ✓ Correlation ± standard error 1 not included

Part I Measurement Model

Part II Structural Model

Step 8 Test Structural Model and Competing Models
- ✓ Goodness-of-fit indices
- ✓ Standardised residuals
- ✓ Modification indices
- ✓ t-values (critical ratio) for significance
- ✓ R^2 values for endogenous variables

Source: Adapted from Koufteros (1999)

Measurement Model

The measurement model is the component of the whole model in which latent constructs are prescribed. The latent constructs are unobserved variables implied by the covariances among two or more observed indicators (Hoyle, 1995). This measurement model is evaluated using Confirmatory Factor Analysis (CFA) for a priori hypotheses regarding relationships among and between observed indicators and their underlying latent constructs. Thus, the measurement model specifies the posited relationships of the observed indicators to the latent constructs, while describing the freedom from random error and uniqueness associated with their indicators.

Anderson and Gerbing (1988) suggest that the confirmatory measurement models should be evaluated and re-specified before measurement, and that structural equation models should be examined simultaneously. Thus, before testing the measurement models overall, each construct in the model should be analyzed separately. Further, when each construct has an acceptable fit based on the fit indices, a pair of constructs should be evaluated in order to confirm that the pre-specified variables or indicators driven by the theory measure what is theoretically believed to be its underlying structure. The model could be modified so that the final model becomes theoretically meaningful as well as statistically acceptable.

Following the assessment of the overall model, the psychometric properties of each latent construct are evaluated separately through examining the completely standardized loading, the error variance, the construct reliability and the variance extracted.

Structural Model

The structural model is the hypothetical model that prescribes relationships among latent constructs and observed variables that are not indicators of latent constructs (Hoyle, 1995). Normally, this model is known as the component of an overall model that relates the constructs to other constructs by providing path coefficients (parameter values) for each of the research hypotheses. Specifically, each estimated path coefficient can be tested for its respective statistical significance for the hypotheses' relationships, while including standard errors and calculated t-values (critical ratios) (Bollen, 1989a; Byrne, 1998; Loehlin, 1998; Hair et al., 1998).

In the structural model, a specific structure between latent endogenous and exogenous constructs must be hypothesized, and the measurement model for these latent constructs must be determined (Mueller, 1996; Hair et al., 1998). Usually, maximum likelihood (ML) or generalized least squares (GLS) methods are utilized for the model estimation because these methods allow for the analysis of models involving latent constructs and non-zero

error covariances across structural equations (Mueller, 1996; Kline, 1998). If a relationship can be specified in terms of directions, a one-tailed significance test can be employed. Otherwise, a two-tailed significance test must be used for an unknown direction for a pre-specified relationship. If a reported t-value is greater than a certain critical value, the null hypothesis that the associated parameter is equal to zero is rejected. This t-value is determined by dividing the appropriate coefficient by its standard error. In general, if an estimated t-value is greater than 1.96, the parameter indicates a statistical significance for a two-tailed test at the .05 level of significance (Mueller, 1996). The coefficient is significant at the .01 level if the t-value exceeds 2.58. Particularly, these critical values are utilized and evaluated for testing relationships between the constructs.

An additional assessment of the structural model is that the standardized solution, where the estimated coefficients all have equal variances and a maximum value of 1.0, must be examined (Bollen, 1989b; Hair et al., 1998). For the measure of the entire structural equation, an R^2 or the overall coefficient of determination must be calculated for the overall explanation of the variance. As a result, the structural model provides a meaningful and parsimonious explanation for observed relationships within a set of measured variables (MacCallum, 1995). The model also enables explanations of direct, indirect, and total structural effects of the exogenous latent constructs on the endogenous constructs.

5.6.6   Evaluation of SEM

When measurement and structural models are evaluated, three types of overall model fit measures are usually utilized: Absolute Fit Measures (AFM), Incremental Fit Measures (IFM), and Parsimonious Fit Measures (PFM) (Hu and Bentler, 1995; Byrne, 1998; Hair et al., 1998; Maruyama, 1998). **An absolute fit index** is used to directly evaluate how well an *a priori* theoretical model fits the sample data, while **an incremental fit index** is used to assess the proportionate fit by comparing a target model with a more restricted, nested baseline model. **A parsimonious fit measure** is used to diagnose whether model fit has been achieved by over-fitting the data with too many coefficients. Table 5.9 summarises the description and acceptable levels of fit for each of the index measures.

Table 5.9: Summary of Alternative Goodness-of-fit Indices

Fit Index	Description	Acceptable fit
Measure of Absolute Fit		
Chi-Square (χ2)	Test of null hypothesis that the estimated variance-covariance matrix deviates from the sample. Greatly effected by sample size. The larger the sample, the more likely it is that the p-value will imply a significant difference between model and data.	Non significant (χ2) at least p-value>.05
Normed Fit Chi-Square (χ2/df) (df=degree of freedom)	Chi-square statistics are only meaningful taking into account the degrees of freedom. Also regarded as a measure of absolute fit and parsimony. Values close to 1 indicate good fit but values less than 1 imply over fit.	Value smaller than 2 and as high as 5 is a reasonable fit.
Standardised Root Mean Square Residual **(SRMR)**	Representing a standardised summary of the average covariance residuals. Covariance residuals are the differences between observed and model-implied covariances.	Value<.05 good fit; .01 to .05 adequate fit.
Root Mean Square Error Of Approximation **(RMSEA)**	Representing how well the fitted model approximates per df.	Values .05 to .08 are adequate fit.
Goodness-Of-Fit Index **(GFI)**	Representing a comparison of the square residuals for the df.	Value>.95 good fit; .90 to .95 adequate fit.
Incremental Fit Measures		
Adjusted Goodness-Of-Fit Index **(AGFI)**	Goodness-of-fit adjusted for the df. Less often used, due to not performing well in some applications. Value can fall outside 0-1 range.	
Buntler-Bonett Normed Fit Index **(NFI)**	Representing a comparative index between the proposed and more restricted, nested baseline model (null model), not adjusted for df, thus the effects of sample size are strong.	Value>.95 good fit; .90 to .95 adequate fit.
Tucker-Lewis Index **(TLI)** also known as Buntler-Bonett Non-Normed Fit Index **(NNFI)**	Comparative index between proposed and null models adjusted for degrees of freedom. Can avoid extreme underestimation and overestimation and robust against sample size. Highly recommended - fit index of choice.	
Bollen's Incremental Fit Index **(IFI)**	Comparative index between proposed and null models adjusted for degrees of freedom.	
Comparative Fit Index (CFI) similar to relative Non-Centrality Index **(RNI)**	Comparative index between proposed and null models, adjusted for degrees of freedom. Interpreted similarly to NFI but may be less affected by sample size. Highly recommended as the index of choice.	Close to 1 very good fit; Value>.95 good fit; .90 to .95 adequate fit.
Parsimonious Fit Measure		
Akaike Information Criterion **(AIC)**	Comparative index between alternative models	Value closer to 0 better fit & greater parsimony.
Parsimony Normed Fit Index **(PNFI)**	This index takes into account both the model being evaluated and the baseline model.	Higher value indicates better fit, comparison between alternative models.
Parsimony Comparative Fit Index **(PCNFI)**	This index takes into account both the model being evaluated and the baseline model.	

Source: Adapted from Arbuckle, 2003, Kline, 2005.

5.6.7   Important Issues in SEM

There are three critical issues that must be addressed in analysing data using SEM, namely:

Sample size

Sample size is a very important issue that must be addressed in the application of SEM because it will determine whether it is sufficient to execute the model with the given number of parameters to be estimated (Baumgartner and Homburg, 1996). It was established that measurement indices in SEM are either directly or indirectly related to sample size, such as significance testing of parameter estimates, model misspecification, model complexity and procedure (Hair et al., 1998). Despite the prevailing notion of the importance of sample size, no definite or absolute sample size rule has been stipulated by previous scholars. However, Hair et al. (1998) posit that 200 is the 'critical sample size'. Following examination of the related literature and given the complexity of the conceptual model proposed by this study, a sample size of 299 was deemed appropriate (see Section 5.4.2 for details of sample selection).

Two-step approach

In the SEM literature, the issue of whether a one-step or a two-step approach is the most appropriate has been intensely debated. As described earlier, the two-step approach involves the assessment of the validity of the measurement model. When the validity of the measurement model has been established, the researcher can proceed to the second step, which is the estimation of the overall structural models (Anderson and Gerbing, 1988). In contrast, the one-step approach entails both the measurement and structural models being estimated simultaneously (Hair et al., 1998). This approach is considered appropriate when the model possesses a strong theoretical rationale and the measures used in the study are highly reliable (Hair et al., 1998). Although the latter procedure has its supporters (Kumar and Dillon, 1987; Fornell and Yi, 1992), the majority of SEM researchers prefer the two-step approach (Anderson and Gerbing, 1992; Koufteros, 1999; Byrne, 2001). They have argued that it is difficult to achieve a good model fit in a single step.

Theoretical Justification

In the application of SEM, theoretical justification is required for specifications of the dependence relationships, modifications of parameters and other facets of the model. Theory has been described by Hair et al. (1998, p. 624) as a "*systematic set of relationships that provides a consistent and comprehensive explanation of a phenomenon*". In this regard, theory is not considered to be strictly derived from academic research; it

could also stem from experience and practice generated by observation of actual behaviour.

5.7 Issues on Ethics, Validity and Reliability

Since the e-survey approach is rapidly becoming such a significant data collection method in survey research, special attention must be paid to some ethical issues. In particular, four basic ethical issues related to validity and reliability have been considered in this study with regard to e-surveys.

Sampling and Generalization

The inability to draw a probability sample of Internet users is the biggest issue for any study using online methods. The reason why a probability sample is currently impossible in this study is that there is no complete list of Internet users' e-mail addresses who have purchased travel services online. Since the sampling frame is restricted to people who have made such purchases and are registered within a specific organization, in this case the *Response Panel*, there is no way to know how many people are actually excluded from the survey. Without the ability to draw a random sample, this study could not declare the results' generalisability to the entire population of Internet shoppers.

Another related issue is that it is an ethical obligation in research to use population samples that are inclusive of race, gender, education and income levels in conducting their surveys. Individuals who have access to personal computers, modems and the Internet might not necessarily be representative of the population.

As the nature of this study is to obtain responses from existing Internet shoppers, the sample should be drawn from people who have already used it. To ensure the representativeness of the sample, survey invitations were sent to all Internet shoppers within the *Response Panel* customer database across the UK who had purchased travel services from the Internet at least once. The evidence of the representativeness of the sample in this study is shown by the descriptive analysis and profile of the respondents in Chapter 6.

Authenticity and External Validity

A related concern in any e-survey is respondent authenticity. While this is a problem in any self-administered survey methodology, it seems particularly acute on the Internet. It is difficult, if not impossible, to control who actually responds to Internet surveys. This may result in an inherent bias, as people with certain characteristics or backgrounds may be

more likely to respond. Surveys have found that anywhere from 20 percent to 50 percent of web users have posed as the opposite sex on the Internet (Strauss and Frost, 1999). This situation is difficult to correct, though many researchers attempt to screen out non-legitimate or flippant respondents.

This issue challenges the external validity of the study and whether the results could be generalized to a larger population rather than only the participants in the study. This issue has been counter-balanced through pilot testing and revision prior to the actual survey. The actual e-survey instruments have been pilot tested with a similar group of consumers whose characteristics closely match the individuals completing the finalized assessment. The e-survey result was tested for reliability, internal consistency and validity with several different samples, all of which provided confidence that the questionnaire could accurately measure Internet shoppers' level of adoption.

Confidentiality and Anonymity

An online response is never truly anonymous, since researchers could trace the respondents' e-mail or IP addresses. According to Goree and Marszalek (1995), researchers are ethically required to guard the confidentiality of their respondents and to assure respondents that they will do so. As the e-survey in this study has been conducted through the *Response Panel* database system, the researcher has no access to the actual e-mail addresses of the respondents or any other details except for the respondents' IDs, which are computer generated.

In this respect, the participants were only asked to provide an e-mail address if they wanted to enter the draw for the reward, and it was stated clearly that responses and personal identifiers were kept separate. Additionally, the communication to the lucky draw winner was made by *Response Panel* based on the researcher's selection. This was a mutual agreement made between the researcher and *Response Panel,* as they are not supposed to reveal any personal information about their clients apart from questionnaire feedback. The issue of confidentiality has been complied with in this respect.

5.8 Conclusion

This chapter has provided detailed explanation in relation to the decisions made regarding the methodological approach in the present study. In particular, the discussion covers the choice, procedure and the rationale of the selected research design, data collection method, development of research instruments, sampling and scaling and finally the method of data analysis. This section also incorporates reliability and validity testing through exploratory factor analysis of core constructs and other validity measures such as average variance extracted and composite reliability. These items will be further examined via a more rigorous statistical method in subsequent chapters. The next two chapters present the findings from the descriptive and multivariate statistical analysis.

DATA ANALYSIS I:

DESCRIPTIVE ANALYSIS

"For the first four years, no new enterprise produces profits. Even Mozart didn't start writing

music until he was four."

— Prof Peter Drucker —
(Management guru)
— Financial Times (1 September 1986) —

THE THESIS STRUCTURE

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Chapter Six
DATA ANALYSIS I: DESCRIPTIVE ANALYSIS

6.0   Introduction

In the preceding chapter, the methodology adopted in this research was extensively elaborated. This chapter discusses the results of the data collection and findings from the statistical tests applied using SPSS. Overall, this chapter aims to explore and obtain an initial understanding of the data collected in this study. This chapter is an important stage of the data analysis, not only in terms of scrutinising and summarising data, but also for model formulation using more advanced statistical techniques at the later stage of the analysis process (Chatfield, 1985) such as Structural Equation Modeling (SEM) at the multivariate analysis level (see Chapter 7).

In the first part, a descriptive analysis of all the collected data is presented. Descriptive statistics are employed to describe the demographic characteristics, buying patterns and buying behaviour of the respondents that made up the sample of Internet shoppers (known as *e-shoppers'* hereafter). The findings are presented with tables, figures and graphs for simplicity and better visualization of the large datasets.

In the second part, the results of the descriptive statistics of the measurement scales for all constructs involved in the study are reported, including the normality of the distribution. Then, the third part presents an assessment of the reliability and validity of the research measurement. This part also present a preliminary multiple-regression analysis and its assumption based on the conceptual framework (see Chapter 4) to examine the expected relationship among the variables prior to the SEM analysis. Next, Chapter 7 proceeds with further data analysis, which consists of a detail discussion on the steps of SEM applied in AMOS as well as the results of the hypothesis tests.

Part 1

6.1 Demographic Profile

As mentioned in Chapter 5, all the respondents who participated in this study had already been selected for their experience of purchasing products from the Internet, specifically travel services. Thus, all the respondents involved in the study are actual e-shoppers who have shopped for travel services online at least once. Thus, the terms 'e-shoppers' and 'respondents' will be used interchangeably in this chapter.

The demographic profile of the respondents in this study consists of gender, age, education, marital status, number of children, occupation grade or social grade and household income level. Respondents were asked to provide their background information by answering multiple choices questions that were designed in the form of nominal and ordinal scales and also open-ended questions, which were then recoded into nominal values. A summary of the demographic characteristics of travel e-shoppers is reported in Table 6.1.

Since some information, such as income, is sensitive in nature, the MOSAIC segmentation database by Experian (2004) is used to provide additional information such as household income, social group, lifestyle and consumption as well as validating the demographic findings. The MOSAIC segmentation information is used based on the postcode data collected from every respondent. Appendix 6.1 presents a detail classification of MOSAIC geodemographic segmentations. This database classifies people on the basis of the aggregate demographic geographical locations of households and postcodes (see also Table 6.4).

As indicated in Table 6.1, it is found that the travel e-shoppers include more females (67.2%) than males (32.8%). This indicates that females are more positive towards shopping for travel services online as compared to males. In terms of age groups, the majority of respondents were aged between 25 and 34 years old (40.5%), followed by the 45 to 54 age group (29.1%), and then those aged 18 to 24 (13%). This shows more than half (69.6%) of the travel e-shoppers are amongst the middle-aged and older age group (between 25 and 54 years old). Overall, the respondents' ages are fairly normal distributed. With regard to educational background, the majority of the shoppers (27.8%) attended at least high school and obtained qualifications to GCSE level. However, collectively, more than half (54.2%) of them are graduates or professionals. This result implies that most of the e-shoppers are quite highly educated. As for household composition, about 75 percent of the respondents are either married or living with partners. However, more than half of the respondents (52.4%) have no children under the age of 18

in their households. This indicates that travel e-shoppers are mostly couples without children or perhaps have older children who live independently.

Table 6.1: Demographic Characteristics of E-shoppers for Travel Services

Variables	Categories	Frequency (N=299)	Valid Percent (%)
Gender	Male	98	32.8
	Female	201	67.2
Age group	Under 18	1	0.3
	18 to 24	39	13.0
	25 to 34	121	40.5
	35 to 44	87	29.1
	45 to 54	32	10.7
	55 to 64	19	6.4
Highest level of education	CSEs / O Level / GCSEs	83	27.8
	A Levels	54	18.1
	Professional qualification	60	20.1
	Undergraduate degree	75	25.1
	Postgraduate degree	27	9.0
Marital status	Single	63	21.1
	Married/ Living with partner	225	75.3
	Divorced/ Widowed/ Separated	11	3.7
No of children under 18	None	157	52.5
	1	56	18.7
	2	63	21.1
	3	20	6.7
	4	1	0.3
	More than 4	2	0.7

When the information on the head of household's occupation was obtained, the answers were then recoded into nominal values based on the Social Grading on the National Readership Survey (2004) (see Appendix 6.2). Table 6.2 shows the breakdown of e-shoppers based on household social group. The result reveals that almost 40 percent of the heads of households' occupations are from the middle grade (B grade). This is followed by a similar percentage (35%) who are from the lower middle grade (C1 grade).

Table 6.2: E-shoppers by Household Social Group

Category	Social Group	Frequency (N=294)	Valid Percent (%)
A	Upper Middle	21	7.0
B	Middle	116	38.8
C1	Lower Middle	104	34.8
C2	Skilled Working	29	9.7
D	Semi-Skilled & Unskilled Working	20	6.7
E	Lowest Level Subsistence	4	1.3

Note: based on chief income earner's occupation.

The B grade represents 'senior people who are not at the very top of their profession or business, while the non-earners in this grade are normally living on private pensions or on fairly modest private means' (MRS, 2004). From this group, it is found that most of the e-shoppers are professionals and semi-professionals such as university lecturers, head teachers, managers, senior administrators, officers, executives etc. On the other hand, the C1 grade represents 'non-manual workers who carry out less important administrative, supervisory and clerical jobs, also known as 'white collar' workers' (MRS, 2004). Quite a number of the e-shoppers are civil servants, teachers, technicians and retired people with pensions. Appendix 6.3 presents the details of their household. This result implies that social groups' lifestyles or behaviour might have an influence on how they respond in buying travel services via the Internet. Furthermore, the results also show that the lowest level subsistence group (grade E) is the group that is least likely to conduct travel e-shopping.

In summary, demographically, this study found that travel e-shoppers are mostly middle-aged females between 25 and 34, who are either married or living with partners but without children. Most of them are well educated, with high school qualifications at least. In terms of occupation, most of the heads of household are mainly from the middle to lower-middle social group, including both professionals and non-professional workers. Further discussion of the demographic results is presented in Chapter 8 (see Section 8.1.1).

6.2   Geodemographic Profile

This section discusses the e-shoppers' profiles based on postcode information and the MOSAIC geodemographic segmentation. The following sections describe the geodemographic profiles of the e-shoppers for travel services.

6.2.1   Geographical Distribution

Once the questionnaires were received, the postcodes were checked and sorted based on the UK counties and then grouped into regions for a larger area of coverage. Appendix 6.3 indicates the location of each postcode. As shown in Table 6.3 and Figure 6.1, the respondents were scattered all over the UK regions, namely Scotland, the North East, the North West, Yorkshire and Humber, the East Midlands, the West Midlands, Eastern regions, London, the South East, the South West, Wales and Northern Ireland. However, most people who shop for travel services online are located in the South East (13.7%), followed by the South West (12.7%), Eastern regions (12.4%) and Greater London (10.4%). Northern Ireland (1%) and Jersey (1%) show the lowest number of travel e-shoppers. This finding indicates that most of the UK population who purchase travel services via the Internet are from southern parts of the UK, including London with

approximately 50 percent of the sample. However, this result might be influence by the population of each region and the registered participants obtained from the database.

Table 6.3: Geographical Distribution of E-shoppers

UK Regions	Frequency (N=299)	Valid Percent (%)
South East	41	13.7
South West	38	12.7
Eastern Regions	37	12.4
London	31	10.4
North West	27	9.0
West Midlands	26	8.7
Scotland	22	7.4
East Midlands	19	6.4
Yorkshire & Humber	17	5.7
Wales	11	3.7
North East	8	2.7
Northern Ireland	3	1.0
Jersey	3	1.0
n/a	16	5.4

Note: n/a indicates incomplete postcodes

Figure 6.1: Geographical Distribution of E-shoppers
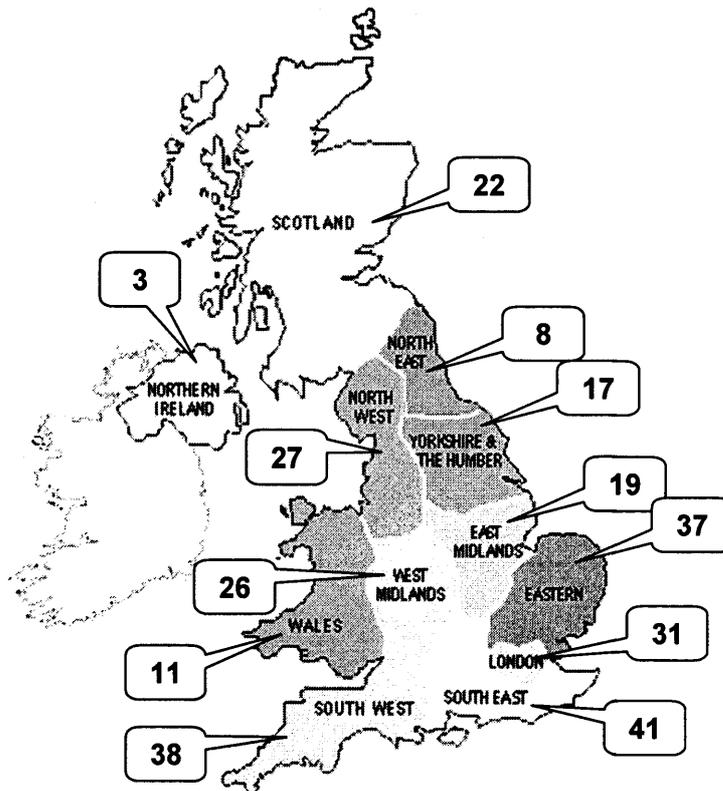
Note: N=283 excluding incomplete postcodes

This result implies that the survey questionnaires were collected from a wide range of UK counties and regions. This finding is of value to this study, as it confirmed that the online survey had been dispersed across the country (see Chapter 5 for sampling method). Therefore, generalizations of the entire results of this study as representing the opinions of the whole UK population of e-shoppers are feasible.

6.2.2 Geodemographic Segmentation

Apart from identifying the distribution of e-shoppers in the UK, postcode data were also used to trace the shoppers' geodemographic segmentations in terms of lifestyle and consumptions based on the MOSAIC segmentation profile. Before discussing these profiles, it is worth examining the MOSAIC segmentation (Experian, 2004). In MOSAIC, the whole of the UK population is divided into 11 main geodemographic segments and 61 sub-segments, which are comprised of quite widely dispersed areas that have similar demographic profiles in common. Table 6.4 summarises the features of MOSAIC segmentation, which consists of 11 geodemographic groups, listed from category A to K. The following discussion compares the major characteristics of samples collected for this study.

Table 6.4: MOSAIC Geodemographic Segmentation Profile

Categories	Group Types	Key Features
A	Symbols Of Success	Expensive cars; Choicest housing; Rewarding careers; Professional occupations; High incomes; Exotic leisure pursuits; High net worth; Successful; Middle-aged
B	Happy Families	Cable and Sky TV; Internet; Corporate careers; Low unemployment; Good prospects; Kitting out homes; Modern homes; Good education; Young couples
C	Suburban Comfort	Self reliant; Plan for retirement; White collar workers; Hardworking; Comfortable homes; Independent; Mature suburbs; Older children; Married couples
D	Ties Of Community	Package holidays; Close knit communities; Family close by; Older houses; Small industrial towns; Takeaways; Traditional Children; Young couples
E	Urban Intelligence	Liberal views; Cosmopolitan tastes; Well educated; Full time students; Professionals; Cultural variety; Open-minded; Few children; Young singles
F	Welfare Borderline	Heavy watchers of TV; Public transport; Low incomes; State benefits; High deprivation; Use cash; Council housing; Many young children; Families
G	Municipal Dependency	Pay bills at Post Office; Old fashioned; Terraces and semis; Large council estates; Outer suburbs; Heavy TV viewing; Large provincial towns; Low incomes; Families
H	Blue Collar Enterprise	Like to shop around; Straight talking; Council estates; Small towns; Exercised Right to Buy; Heavy viewers of TV; Self reliant and capable; Mostly poorly educated; Middle aged couples
I	Twilight Subsistence	Bingo, dominoes, cards; TV popular; Low savings; State benefits; Some small bungalows; Look forward to visits; Some sheltered homes; Low incomes; Older people
J	Grey Perspective	Principles/prejudices; Own their homes; Index linked pensions; Significant capital; Prefer face-to-face service; Active; Good health; Relocated on retirement; Pensioners
K	Rural Isolation	Churchgoers; Cars important; Distinct rural life; Farming; Agro-tourism; Authenticity; Work long hours; Small communities; Older people

Source: Experian Ltd., 2004

Table 6.5:   Postcode Data by MOSAIC Classification

Category	Group Types	Frequency (N=299)	Valid Percent (%)
A	Symbols Of Success	22	7.4
B	Happy Families	35	11.7
C	Suburban Comfort	28	9.4
D	Ties Of Community	35	11.7
E	Urban Intelligence	23	7.7
F	Welfare Borderline	14	4.7
G	Municipal Dependency	8	2.7
H	Blue Collar Enterprise	21	7.0
I	Twilight Subsistence	5	1.7
J	Grey Perspective	13	4.3
K	Rural Isolation	6	2.0
n/a		89	29.7

Note: n/a indicates unanswered and incomplete postcode.

As presented in Table 6.5, it is clear that 6 out of 11 of the geodemographic segments conduct travel e-shopping. Most of them are from the segments *Ties of Community* (11.7%) and *Happy Families* (11.7%). Other participants who also shop for travel services via the Internet are from the Suburban Comfort (9.4%), Urban Intelligence (7.7%), Symbols of Success (7.4%) and Blue Collar Enterprise (7.0%) segments. These percentages are low, since nearly 30 percent of the postcode data appeared to be either incomplete or incorrect. **However, this result seems to agree with what has been suggested by the MOSAIC segmentation profile, as segments such as Happy Families, Ties of Community, Suburban Comfort, Urban Intelligent and Symbol of Success are found to shop more for holidays or travel services from the Internet as compared to other segments (see Table 6.4 for the groups' lifestyle and consumption).**

6.2.3   Household Income

Having identified the respondents' geodemographic segmentation groups, it is possible to gather some information about the travel e-shoppers' earnings, income and other financial factors, even though they were not asked to provide such information in the survey. Table 6.6 summarises some aspects of household financial information, which are extracted and ranked based on the MOSAIC profile.

Table 6.6:   E-shoppers by Financial Strength

Household Income £50,000 +	Personal Income £40,000 +	Regular Savings
A	A	B
E	E	A
B	B	C
C	C	E
K	J	J
J	K	K
D	D	D
F	H	H
I	F	I
H	G	F
G	I	G

Note: A-Symbols of Success; B-Happy Families; C-Suburban Comfort; D-Ties of Community; e-Urban Intelligence; F-Welfare Borderline; G-Municipal Dependency; H-Blue Collar Enterprise; I-Twilight Subsistence; J-Grey Perspective; K-Rural Isolation.

As displayed in Table 6.6, household income, personal income and regular savings are ranked to capture some information about the travel e-shoppers' earnings. In overall comparison, Group A (Symbols of Success) shows the strongest positions based on these rankings, followed by Groups E (Urban Intelligence), B (Happy Families) and C (Suburban Comfort). On the other hand, e-shoppers who are from Group G (Municipal Dependency) indicate that money might be a problem for this group, as they are the lowest in terms of household income and savings.

According to MOSAIC, consumers who are in group A have the highest household income, of at least £50,000 per year, along with their personal income of at least £40,000 annually. Although this group has the highest purchasing power, the study found that only 7.4 percent of the e-shoppers are from this group (see Table 6.5). Instead, the majority of e-shoppers are either from the slightly high income group (Happy Families) or the middle income group (Ties of Community). As reported previously (see Table 6.4), these two groups are comprised of young couples, most of whom have no children, and those who prefer package holidays.

In summary, the geodemographic findings highlight some additional information about the e-shoppers' locations, lifestyles and financial background. Travel e-shoppers in the UK are mostly located in the south of England. Parallel with MOSAIC segmentation, most of the e-shoppers fall into the group of professionals, semi-professionals and white-collar workers, with annual household incomes ranging from £25,000 to £50,000. MOSAIC indicates that these people are mainly booking holidays via the Internet. This signifies that income levels may influence

people to conduct travel e-shopping. Consequently, travel services should be targeted to various market segments, from down-market to up-market, with suitable products. Chapter 8 presents further discussion on the geodemographic profiles of travel e-shoppers.

6.3 Internet Shopping Patterns and Experience

This section presents the e-shoppers' buying patterns and experience with regard to travel services as well as other product categories. Specifically, this section covers some related online shopping patterns, in terms of Internet usage, searching frequency, purchase frequency, types of Internet purchases, types of travel purchases, and types of websites where product have been purchased.

6.3.1 Internet Usage

Figure 6.2 illustrates the e-shoppers' experience of using the Internet in terms of the number of years. The results show that the majority (44%) of the respondents claim that they have been using the Internet for between 4 and 6 years. About half this number (27%) are among the most experienced Internet users, having used the Internet for 7 years or more. In total, it is found that a large number of the respondents (> 80%) who shop for travel services online are apparently regular and experienced Internet users with at least 4 years' experience of the Internet. **This finding indicates that e-shoppers for travel services appear to be consumers who are well versed, skilful and comfortable with Internet usage and technology.**

Figure 6.2: The Length of Internet Usage
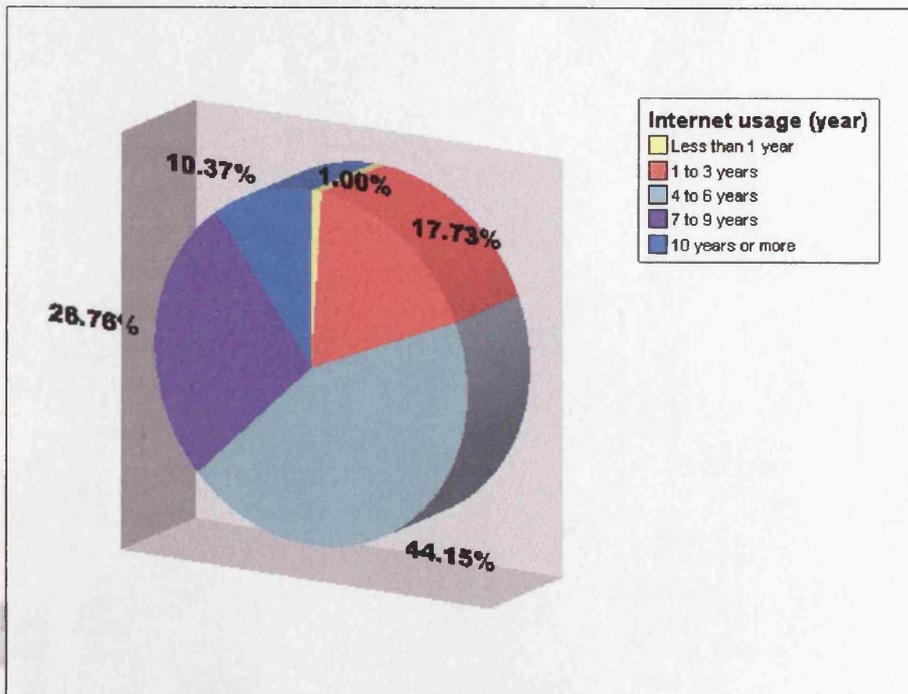
6.3.2   Intensity of Travel Information Search

Figure 6.3 reports the frequency of searching for travel service information in a 12-month period. The result indicates that only a small number of e-shoppers (4.7%) search for travel services on a regular basis (i.e. several times per week). Most of them (40.1%) search for travel services on a weekly basis or several times per month, while others search for travel services on a monthly basis or less frequently. **The results also show that nearly half of the respondents (45%) have become regular travel website visitors, looking for information and offers at least once a month.**

From this result, it is suspected that those who search for travel information on a daily basis might hold memberships or subscriptions to particular travel websites, from which they receive regular offers or newsletters from the travel e-taliers. On the other hand, other respondents are more likely to search for travel offers and information occasionally, such as during school breaks, summer breaks, bank holidays or others.

Figure 6.3: E-shoppers by the Frequency of Travel Information Search
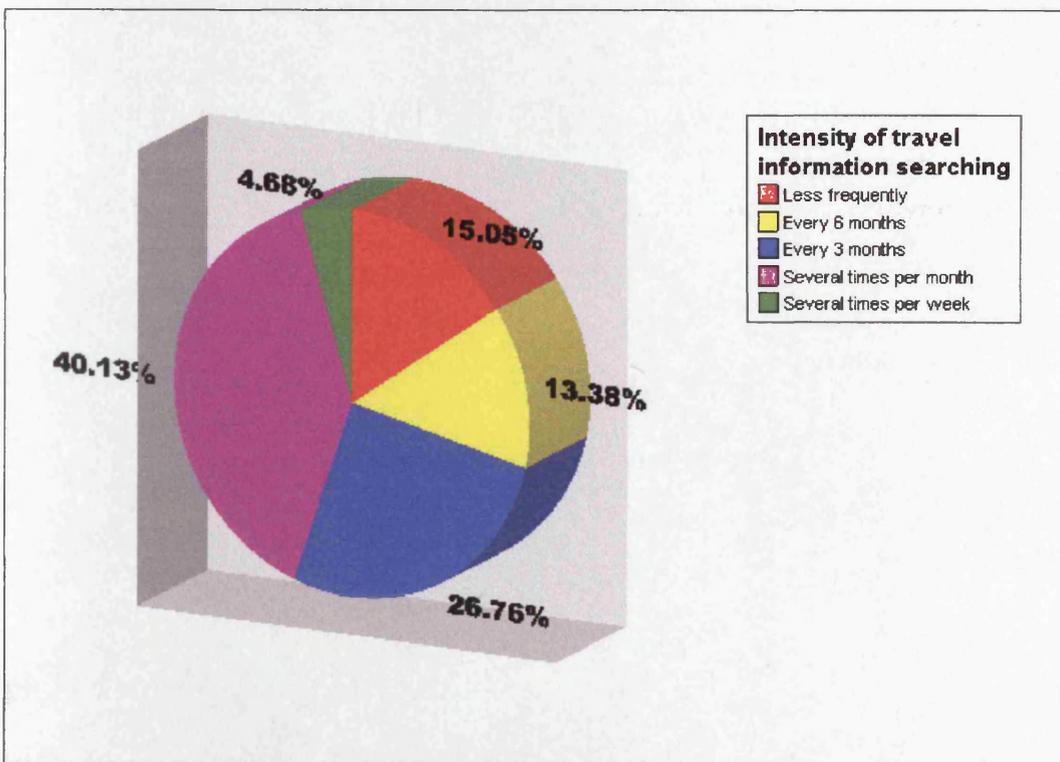
6.3.3   Types of Products Purchased Online

The types of product purchased online by the respondents are presented in Table 6.7. It is clear from the table that all respondents (N=299) claimed that they had experienced purchasing travel services via the Internet. Other popular products that have been purchased online by the respondents were music, videos, CDs or DVDs (81.3%); books or

magazines (74.2%); gifts or flowers (66.2%); clothing, accessories or cosmetics (60.2%), computer related products (59.2%); electronics or appliances (54.8%) and telecommunication products (50.5%). Overall, it can be concluded that e-shoppers prefer shopping for hi-tech or electronic products on the Internet, compared to household products such as groceries and food. This may be due to the wide variety of choices and better offers from these product categories that are available from online stores. Only 7 respondents answered 'other products' to the question pertaining to the types of product purchased. Nevertheless, after checking their answers, it was found that the products indicated by them were motoring products such as cars and parts.

Table 6.7: E-shoppers by the Types of Travel Services Purchased

Categories	Frequency (N=299)	Valid Percentage (%)
Gifts/ flowers	198	66.2
Books and magazines	222	74.2
Groceries /food / drinks	143	47.8
Electronics and appliances	164	54.8
Music, videos, CDs, DVDs	243	81.3
Clothing / accessories/ cosmetics	180	60.2
Business equipments	65	21.7
Services	141	47.2
Travel services	299	100
Computer related products	177	59.2
Home products	137	45.8
Hobbies related products	101	33.8
Telecommunication	151	50.5
Other (cars & parts)	7	2.3

6.3.4   Length of Online Travel Shopping Adoption

Figure 6.4 reports the duration of use of travel e-shopping amongst the e-shoppers. The finding shows that most of the respondents had been shopping for travel services online for between 3 and 4 years (37.1%). This is followed by a similar percentage who had been using online travel shopping for between 1 and 2 years (34.1%). However, only a small number of them indicated that they had adopted travel e-shopping at least 7 years ago (7.3%). **Generally, these results demonstrate that the majority (87.6%) of the shoppers have been using the Internet to shop for travel services for at least 1 year. This denotes that most of them are experienced e-shoppers, in the early adoption stage.**

Figure 6.4:   E-shoppers by the Length of Online Travel Shopping Adoption
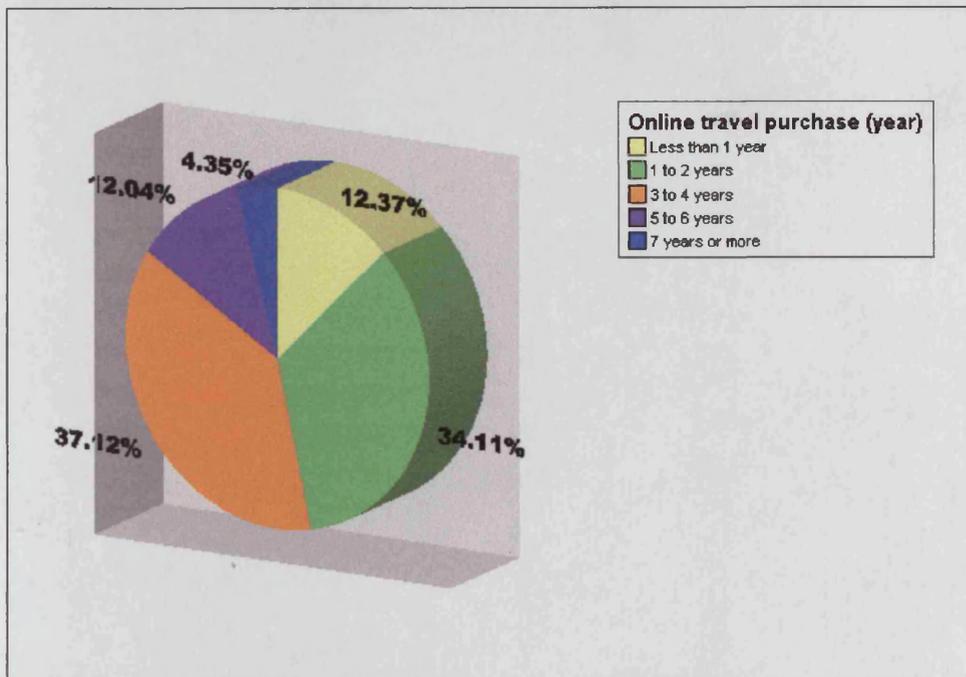
Based on the distribution of the length of adoption, it is found that statistically, these durations are normally distributed, as shown by the bell-shaped curve plotted in Figure 6.5. From the histogram and the percentages for each answer category, it is found that they correspond to Rogers' (1995) classification of consumer attitudes towards purchasing new products.

Rogers (1995) classifies five groups of adopter categories according to how quick consumers are to purchase. He introduced a normal distribution curve as the basis for categorizing the degree of 'innovativeness' for adopters, comprised of Innovators (2.5%), Opinion Leaders or Early Adopters (13.5%), Early Majority (34%), Late Majority (34%), and Laggards or Late Adopters (16%). The bell-curve indicates a typical adoption of an innovation over time when plotted on a frequency basis (see Chapter 3). **Hence, the result signifies that e-shoppers for travel services are distributed normally, with the majority of the existing shoppers falling into the category of Early Adopters (37.1%) and Early Majority (34.1%). This indicates that the adopters' group characteristics suggested by the literature are reflected in this study of the behaviour of online travel shoppers.**

Figure 6.5: Distribution of E-shoppers by Length of Adoption
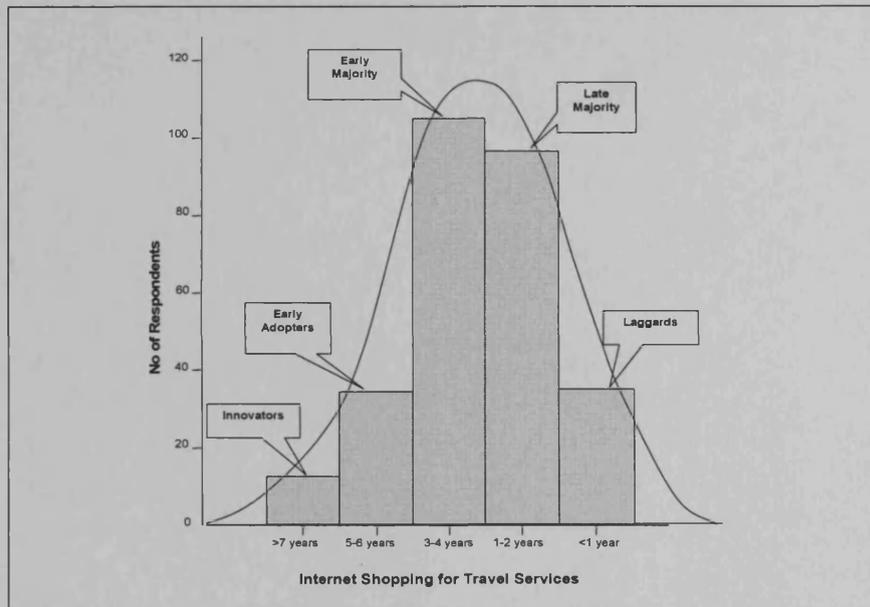
Based on the distributions of e-shoppers by length of adoption, as shown in Figure 6.5, it could be concluded that that there were two groups of e-shoppers who participated in this study. The first group, which is also the majority (53.5%), is the early adopters (i.e. Innovators, Early Adopters and the Early Majority). This group has been using travel e-shopping since its early stage, for at least 3 years or more. The second group (46.5%) consists of later adopters (i.e. the Late Majority and Laggards), those who adopted Internet shopping more recently and have used it for 2 years or less. The t-test result of the comparison of these two groups is presented in Section 6.4.

6.3.5   Types and Frequency of Online Travel Purchase

Figure 6.6 reports the frequency of purchase with respect to the types of travel services. The bar chart indicates that there are certain types of travel services that are more likely to be purchased by e-shoppers. Overall, accommodation and flight tickets are the most common travel products purchased via the Internet by the respondents. In contrast, the least popular types of product to be purchased online are business packages, coach tickets, ferry tickets, car hire and train tickets.

In terms of shopping frequency, cumulatively, only small numbers of respondents (.7% to 5%), are frequent shoppers who normally shop for travel services more than eight times per year. The majority of the e-shoppers were found to be shopping for travel services approximately one to four times a year. **These findings suggest that travel e-shoppers**

could be categorised as 'frequent shoppers' who do a lot of travelling, such as businessman or commuters; 'ordinary shoppers' who purchase travel services for their holidays or breaks; and 'occasional shoppers' who shop by occasion and do less travelling and holidays. This idea has been discussed in a number of online marketing studies (see Chapter 3).

Figure 6.6: Types of Travel Services by the Frequency of Online Shopping
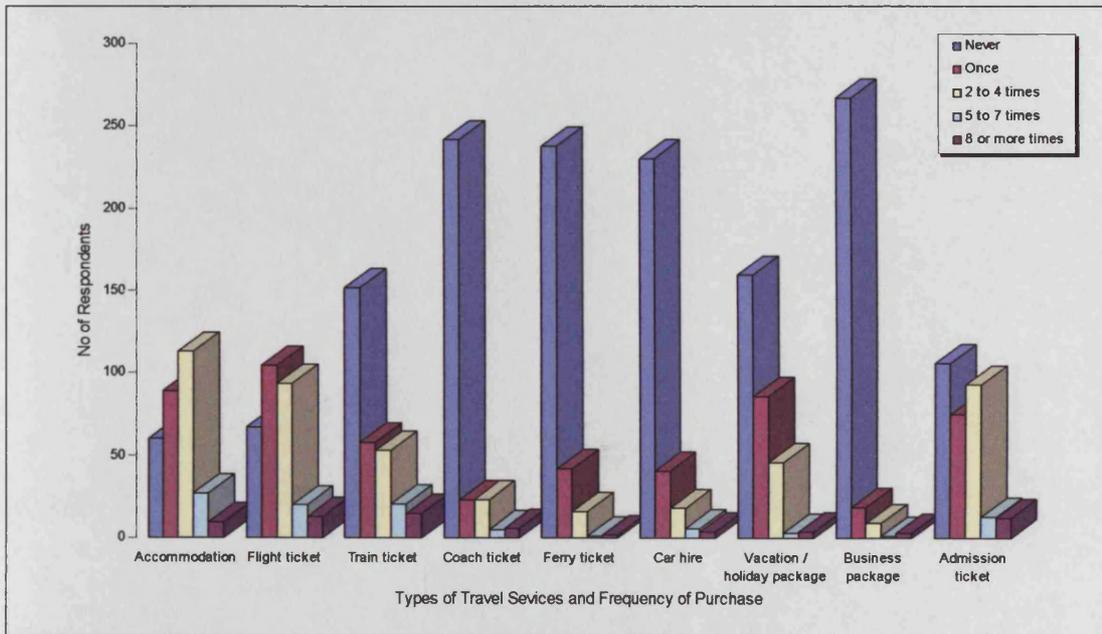
6.3.6 Types of Travel Shopping Websites

As presented in Table 6.8, there are six common types of websites that market travel services. The results indicate that *web-based travel agents* such as *Lastminute.com* and *Expedia.co.uk* are the most popular type of websites where the majority of the respondents normally shop (73%). Alternatively, they also like to purchase travel services directly from the travel suppliers or companies' websites such as *Easyjet.com* and *Travelodge.co.uk*. The results imply that the respondents are knowledgeable and selective about where to shop. They are not attached only to one website but visit at least a few sites to compare the prices and package offers before making a travel purchase.

Table 6.8:   Types of Travel Shopping Websites

Types of Websites	Frequency	Valid percent (%)
Web-based travel agents (e.g. Lastminute.com, CheapFlights.co.uk, Discounthotels.com, Expedia.co.uk)	218	72.9
Tour operators' websites (e.g. FirstChoice.co.uk, ThomasCook.com, British-Holidays.co.uk)	92	30.8
Companies' websites (e.g. Marriot.com, Eurostar.com,BMIBaby.com, BritishAirways.com)	192	64.2
Media websites (e.g. Travel. Telegraph.co.uk, Guardian.co.uk, BBC.co.uk,Teletext.co.uk)	42	14.0
Auction websites (e.g. Ebay.co.uk, Qxl.co.uk,eBid.co.uk)	44	14.7
Internet portals (e.g. Yahoo.co.uk, MSN.co.uk, Lycos.co.uk, AOL .com etc)	53	17.7
Others	3	1.0

6.3.7   Credit/Debit Card Ownership

As shown in Figure 6.7, nearly all respondents (96.3%) owned a debit and/or credit card. This finding is expected, as most shopping websites require consumer to pay by credit or debit card. On most websites, upon making reservations or orders, credit card details are needed to secure the booking. The small percentage of respondents without credit or debit cards had presumably used their partner's or spouse's card when making reservations via the Internet.

Figure 6.7:   E-shoppers and Debit/ Credit Card Ownership
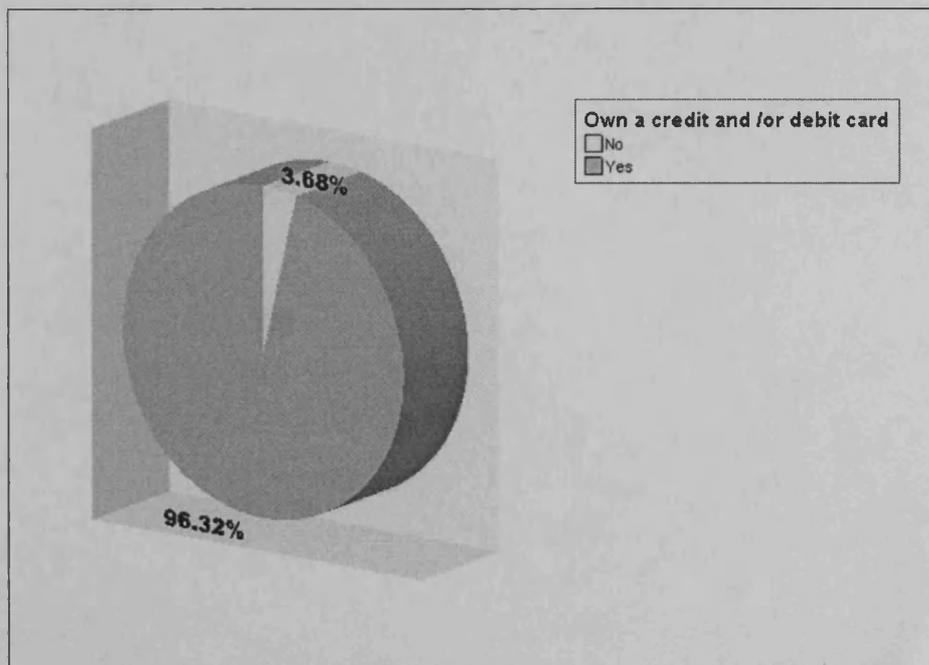
6.3.8 General Concerns about Internet Shopping

Table 6.9 sets out the general concerns or issues pertaining to shopping for products via the Internet. In general, based on the mean score, most e-shoppers demonstrate concerns about security issues (mean=4.78) compared to other issues when shopping online. Similarly, they are also concerned about product pricing; more people (mean=4.73) reported that they shopped online due to competitive pricing. Other concerns regarding Internet shopping include privacy, service quality, convenience, ease-of-use of the Internet for shopping, the selection of products offered and shopping enjoyment. Chapter 7 investigates further the relationships of these issues with the adoption of Internet shopping.

Table 6.9: General Concerns about Internet Shopping

Items	Response Scale					Scale Descriptives			
	(1)	(2)	(3)	(4)	(5)	Mean	SD	Skewness	Kurtosis
Wide Selection Of Products		2.3%	6.7%	53.2%	37.8%	4.26	0.69	-0.83	1.13
Competitive Prices			1.3%	24.7%	73.9%	4.73	0.48	-1.39	0.79
Convenience			3.0%	46.5%	50.5%	4.47	0.56	-0.43	-0.86
Shopping Enjoyment	1.7%	4.3%	31.8%	42.5%	19.7%	3.74	0.88	-0.45	0.27
Ease-of-use			5.4%	49.8%	44.8%	4.39	0.59	-0.38	-0.70
Security			1.3%	19.1%	79.6%	4.78	0.44	-1.83	2.44
Privacy		2.0%	4.0%	26.4%	67.6%	4.60	0.67	-1.80	3.34
Service Quality			4.3%	39.1%	56.5%	4.52	0.58	-0.76	-0.41

Note: Responses to all items were on Likert scale ranged from Not at all important (1) to Very important (5).

In summary, this section has presented some significant findings about e-shoppers' behaviour in terms of: Internet usage, online product purchase, travel shopping and its frequency, travel searching and its frequency, credit card ownership, preferred travel shopping websites and overall concerns about Internet shopping. It is found that the majority of e-shoppers are Internet savvy, with at least 3 years' experience in Internet usage and e-shopping, particularly for travel services. They search for travel information on a weekly basis, with a shopping preference for travel agents' websites. Accommodations and flights are the most frequent purchases made, followed by other popular products such as DVDs, CDs, books and magazines. Since most e-shoppers own credit and/or debit cards, which facilitate online

bookings and payment, they have greater concerns about security issues related to e-shopping. Also, the e-shoppers indicate that their motivation to shop online is due to competitive pricing and convenience. Implications and suggestions related to these findings are elaborated in Chapters 8 and 9.

6.4 Early Adopters vs. Later Adopters

In previous discussion on the length of adoption of travel services (see Section 6.3.4 & Figure 6.4), it has been identified that there were 4 groups of e-shoppers who participated in this study. The majority of participants are early adopters: those who had been using Internet shopping for 3 years or more (n=160); others are later adopters, who had recently adopted this form of shopping, using it for 2 years or less (n=139). Based on previous literature, it is expected that these two groups may have some disparity in their profiles. Thus, t-tests were conducted in order to identify the differences in demographic backgrounds and buyer behaviour between the early adopters and later adopters. Figure 6.8 summarises the t-test results between the two groups.

The t-test results show that early adopters do not differ from later adopters on gender or household composition. However, there are some significant differences between them in terms of age, education, Internet usage and information searching, at the 5% level (see Appendix 6.4 for details). As shown in Figure 6.8, in terms of age, the majority of the later adopters are younger, aged between 25 and 34, compared to the early adopters, whose age is between 25 and 44. This implies that the early adopters consist of older people; thus they may have a higher purchasing power due to career stability and easier access to credit cards as a result of the length of Internet shopping adoption.

In terms of educational level, the results show that early adopters have more extensive educational backgrounds: more of them are graduates and professionals than the later adopters. The majority of the later adopters obtained high school qualifications such as GCSEs and O-Level. This result is expected, as graduates usually use computers and the Internet to the greatest extent either for learning or working; hence, they are have greater exposure and more positive attitudes towards new technology. This result, however, suggests an association with the Internet usage pattern between early and later adopters. Early adopters are found to be more experienced Internet users: the majority of them have been using the Internet for at least 4 years. Nevertheless, the later adopters could be considered as new to the Internet, with the majority adopting the Internet 4 years ago or less.

These findings also run parallel to the results for the intensity of information searching on the Internet. The early adopters, who are experienced and regular Internet users, are found to search for travel information more frequently, several times a month. Conversely, the

later adopters, who are in the early stage of Internet adoption, perform less online travel searching compared to the early adopters.

Figure 6.8: T-test Results of Early Adopter and Later Adopter
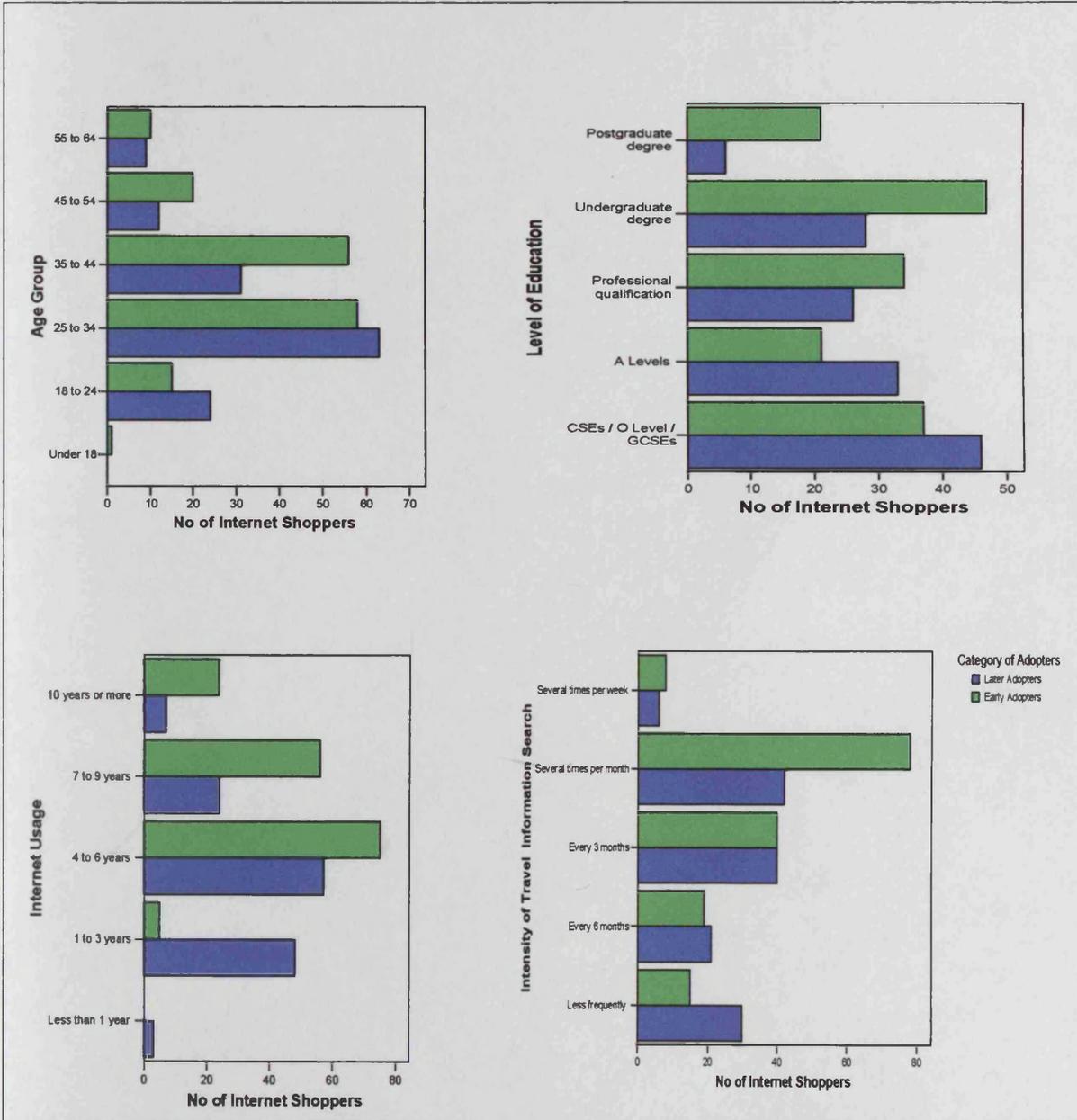
The findings of this section provide a more detailed profile of e-shoppers by differentiating the demographic variables and Internet usage patterns between early and later adopters. The early adopters are slightly older than later adopters, and are mostly graduates. They are found to have more positive views towards e-shopping, based on the length of Internet usage and the frequency with which they search for travel information compared to later adopters. The implications of the findings will be presented in Chapter 8.

Part 2

6.5 Descriptive Analysis of Measurement Scales

In this part, the descriptive results of the measurement scale for each of the constructs of the research model are presented. As described in Chapter 4, the proposed model consists of eight constructs: consumer innovativeness, consumer involvement, opinion leadership, perceived usefulness, perceived ease-of-use, perceived risk, trust and adoption. Detailed descriptions of the items or questions, percentage data for each scale, means, standard deviations, skewness and kurtosis are reported in table form (see Table 6.10 to Table 6.17). The descriptive discussions are mainly based on the mean scores of each of the constructs and items.

6.5.1 Results of Perceived Usefulness

The scale of perceived usefulness consists of 7 items reflecting the benefits and convenience perceived by consumers in relation to travel e-shopping. The results of the descriptive analysis for PU are shown in Table 6.10. Respondents were asked to provide answers for each item, measured by a five-point Likert scale ranging from '1' ('strongly disagree') to '5' ('strongly agree'). Based on the mean score for each item, e-shoppers demonstrated rather strong agreement that online shopping offered great convenience, enabling them to shop for travel services at any time and anywhere (M=4.49, SD=0.59), as they did not have to visit travel agent outlets to purchase travel services (M=4.34, SD=0.66). Additionally, they also agreed that shopping for travel services online has enabled them to save time (M=4.18, SD=0.70); receive special prices and offers (M=4.16, SD=0.69); and control their purchase decisions (M=4.00, SD=0.73). Further, e-shoppers agreed that shopping travel services online could increase the effectiveness of shopping (M=3.97, SD=0.75). **Overall, e-shoppers have demonstrated their belief that shopping for travel services online is really useful (M=4.26, SD=0.62)**

The results of this section indicate that consumers shop for travel services online not only because it provides convenience but also because it offers better pricing and promotion as well as enabling them to control their purchase decisions without being influenced by sales people. However, it should be considered that online travel shopping also has some negative impacts on shoppers; for example, their personal information seems to be shared by many parties, which could cause problems for the privacy and security of e-shoppers. This issue will be elaborated further in Chapter 8.

6.5.2   Results of Perceived Ease-of-use

Table 6.11 shows the results of the descriptive statistics of perceived ease-of-use. A total of 6 items were measured by a five-point Likert scale on agreement levels, similar to perceived usefulness. Two of the items (item 1 and 5) were reverse-coded. This measurement scale contains an explanation of e-shoppers' evaluations of the simplicity of using the Internet to shop for travel services, particularly in terms of user interface issues such as navigation or searching tools and obtaining the skills required for shopping online, as well as technical aspects.

Based on the mean scores, overall, the respondents in this study expressed strong agreement that buying travel services on the Internet is not difficult (M=4.20, SD=0.67). In particular, they felt that searching for travel information via the Internet was uncomplicated (M=4.05, SD=0.74). Furthermore, the respondents somewhat agreed that Internet shopping is easy to learn and the skills required are easy to acquire; it is not confusing; instructions and menus are straightforward, and finally, it does not require advanced computing skills. These items scores were fairly high, with the mean ratings ranging between 3.69 and 3.99. **Thus, it can be generally interpreted that the e-shoppers in this study exhibited relatively high agreement that shopping for travel services online is easy or simple to perform.**

Table 6.10: Measures of Perceived Usefulness

| | Items | Response Scale | | | | | Scale Descriptives | | | |
		(1)	(2)	(3)	(4)	(5)	Mean	SD	Skewness	Kurtosis
USEFUL 1	Internet shopping for travel services gives me greater control over my purchase decision		3.0%	17.4%	55.9%	23.7%	4.00	0.73	-0.47	0.19
USEFUL 2	Internet shopping for travel services enables me to save my time		2.3%	10.0%	54.5%	33.1%	4.18	0.70	-0.68	0.67
USEFUL 3	Shopping for travel services via the internet is more convenient than visiting travel agent outlets			10.7%	44.5%	44.8%	4.34	0.66	-0.51	-0.72
USEFUL 4	Internet shopping makes it possible to shop for travel services at my convenience (anytime, anywhere)			4.7%	41.5%	53.8%	4.49	0.59	-0.67	-0.52
USEFUL 5	Internet shopping enables me to buy travel services at special rates/ offers			17.1%	49.5%	33.4%	4.16	0.69	-0.23	-0.91
USEFUL 6	Using the internet to shop for travel services can increase my shopping effectiveness		2.0%	23.7%	49.5%	24.7%	3.97	0.75	-0.24	-0.50
USEFUL 7	Overall, I find shopping for travel services on the Internet to be useful			9.7%	54.2%	36.1%	4.26	0.62	-0.26	-0.63

Table 6.11: Measures of Perceived Ease-of-use

| | Items | Response Scale | | | | | Scale Descriptives | | | |
		(1)	(2)	(3)	(4)	(5)	Mean	SD	Skewness	Kurtosis
EASE 1	I find using the Internet for shopping for travel services to be confusing*	2.0%	9.7%	18.7%	42.8%	26.8%	3.83	1.00	-0.73	0.02
EASE 2	It is easy to deal with instructions & menus given on websites while shopping for travel services		3.7%	26.8%	54.2%	15.4%	3.81	0.73	-0.26	-0.10
EASE 3	It is easy for me to become skilful at using the Internet to shop for travel services		2.3%	19.7%	54.5%	23.4%	3.99	0.73	-0.36	-0.08
EASE 4	I find it easy to search for travel information via the websites I use		3.3%	15.1%	54.8%	26.8%	4.05	0.74	-0.58	0.31
EASE 5	Shopping for travel services via the Internet requires advanced computing skills*	3.3%	9.7%	21.1%	46.5%	19.4%	3.69	1.00	-0.74	0.21
EASE 6	Overall, I find it easy to use the Internet to shop for travel services		1.3%	10.4%	55.5%	32.8%	4.20	0.67	-0.52	0.35

Note: Responses to all items were on Likert scales ranging from Strongly disagree (1) to Strongly agree (5); *Item was reverse coded.

6.5.3   Results of Perceived Risk

The perceived risk of the e-shoppers is measured by 6 items that consist of various issues related to risk creation in online shopping.   The e-shoppers were asked to indicate their level of agreement, ranging from 1 to 5, on issues related to online payment, reservation systems, transaction, privacy and security. Prior to analysis, all items were reverse-coded. As presented in Table 6.12, the e-shoppers in this study tended to agree that, in general, shopping for travel services on the Internet is not risky (M=3.82, SD=0.73). They also seemed satisfied with the quality of the online travel services purchased from the Internet (M=3.82, SD=0.69). The loss of privacy did not really matter to them (M=3.75, SD=0.70). As a result, they were quite comfortable giving their credit or debit card details upon making reservations (M=3.51, SD=0.95). However, they felt slightly uncertain about whether the cost of purchasing a travel service online could end up higher than expected after adding up taxes and charges (M=3.14, SD=0.94). Additionally, they appeared slightly reluctant about conducting large travel-related transactions (i.e. £1,000) over the Internet (M=2.95, SD=1.05).

These results imply that travel e-shoppers anticipate the various risks involved when shopping online. They are quite cautious with regard to the size of transactions conducted via the Internet for travel purchases. The larger the amount of payment involved, the higher the risk they perceived. In spite of this, overall they demonstrated a low level of perceived risk, which indicates that they trust the new shopping medium.

Table 6.12: Measures of Perceived Risk

	Items	(1)	(2)	(3)	(4)	(5)	Mean	SD	Skewness	Kurtosis
				Response Scale					Scale Descriptives	
RISK 1	The cost of purchasing a travel service on the Internet can end up being higher than expected*	2.0%	26.4%	32.8%	33.1%	5.7%	3.14	0.94	-0.02	-0.78
RISK 2	If a travel purchase cost more than, say, £1000, I would rather not pay this on the Internet*	8.0%	28.1%	29.8%	29.1%	5.0%	2.95	1.05	-0.06	-0.78
RISK 3	The quality of the travel services purchased from the Internet generally does not meet my expectation*		4.3%	21.7%	61.9%	12.0%	3.82	0.69	-0.53	0.56
RISK 4	I feel uncertain whether travel retailers are efficient in dealing with sales transactions on the Internet*		9.4%	38.8%	45.8%	6.0%	3.48	0.75	-0.19	-0.33
RISK 5	Using the Internet to shop for travel services would lead to a loss of privacy*		4.3%	26.8%	58.2%	10.7%	3.75	0.70	-0.39	0.21
RISK 6	I am uncomfortable giving my credit card number when booking for travel services on the Internet*	3.3%	11.4%	27.4%	47.2%	10.7%	3.51	0.95	-0.64	0.14
RISK 7	Overall, it is risky to shop for travel services via the Internet*		4.7%	23.1%	57.5%	14.7%	3.82	0.73	-0.43	0.20

Table 6.13: Measures of Trust

	Items	(1)	(2)	(3)	(4)	(5)	Mean	SD	Skewness	Kurtosis
				Response Scale					Scale Descriptives	
TRUST 1	I trust the Internet reservation/ booking systems when shopping for travel services		3.3%	27.8%	58.2%	10.7%	3.76	0.68	-0.31	0.16
TRUST 2	I trust the Internet payment/ transaction systems when shopping for travel services		3.7%	22.1%	64.2%	10.0%	3.81	0.66	-0.56	0.75
TRUST 3	I trust that web travel retailers have sufficient expertise to perform business on the Internet		2.0%	23.7%	65.9%	8.4%	3.81	0.60	-0.44	0.69
TRUST 4	I trust that web travel retailers keep my best interests in mind	1.3%	6.0%	41.8%	42.5%	8.4%	3.51	0.79	-0.29	0.45
TRUST 5	Overall, I don't trust shopping for travel services via the Internet*	2.0%	7.7%	15.7%	51.8%	22.7%	3.86	0.92	-0.92	0.78

Note: Responses to all items were on Likert scales ranging from Strongly disagree (1) to strongly agree (5); *Item was reverse coded.

6.5.4   Results of Trust

The descriptive statistics regarding e-shoppers' trust are reported in Table 6.13. A total of 5 items was measured by a five-point Likert scale examining agreement with various dimension of trust creation related to travel e-shopping. Higher mean scores indicate greater trust in travel e-shopping. The mean scores of each item generally indicate that respondents tended to trust the Internet as a place to shop for travel services (M=3.86, SD=0.92). Specifically, items related to systems such as reservation and payment (items 1 and 2) obtained fairly high means (3.76 and 3.81 respectively). Likewise, respondents showed moderate agreement that they trusted the expertise of most travel web retailers (M=3.81, SD=0.60). They also tended to agree that the e-tailers kept their best interests in mind (M=3.51, SD=0.79).

Thus, it can be interpreted that the e-shoppers in this study have demonstrated relatively high trust in travel Internet shopping, and specifically in the network systems dealing with transactions and bookings. Moreover, they also trust e-tailers' roles in providing good service and security for them. The findings generally correspond with and support the level of perceived risk revealed in the previous section, where most e-shoppers' perceived risk regarding Internet shopping is low (see Section 6.5.3).

6.5.5   Results of Consumer Involvement

In Table 6.14, the results of the descriptive analysis of the consumer involvement construct are presented. A total of 9 items were adapted from the "Personal Involvement Inventory" (Zaichkowsky, 1994) to measure levels of consumer involvement with regard to the adoption of travel e-shopping. Respondents were asked to indicate their agreement with each item, measured by five-point Semantic differential scales. Higher mean scores indicate that e-shoppers have a more positive attitude to items concerning their experiences and feelings with regard to using the Internet to shop for travel services. In other words, higher mean scores can be viewed as agreement with the given reasons why they adopt travel e-shopping.

From the results, e-shoppers seemed to agree with most of the involvement measurement items. The e-shoppers agreed that travel Internet shopping is needed (M=3.99, SD=1.05); and important (M=3.96, SD=0.84) as well as valuable (M=3.93, SD=1.02). They also agreed that shopping for travel services from the web was wise, interesting, relevant, appealing and involving. Furthermore, they thought it was quite exciting to shop for travel services online.

Consequently, e-shoppers participating in this study have demonstrated a high degree of personal involvement. For them, purchasing travel from the web not only provides convenience and good offers, but also gives them an enjoyable shopping experience. The more they value the experience and feelings towards the web shopping for travel services, the higher their involvement will be.

Table 6.14: Measures of Consumer Involvement

	Items	Response Scale					Scale Descriptives			
		(1)	(2)	(3)	(4)	(5)	Mean	SD	Skewness	Kurtosis
INVOLVE1	Unimportant - Important		4.7%	23.4%	43.5%	28.4%	3.96	0.84	-0.40	-0.53
INVOLVE2	Boring - Interesting	1.3%	8.7%	27.4%	36.1%	26.4%	3.78	0.98	-0.44	-0.42
INVOLVE3	Irrelevant - Relevant	3.3%	9.0%	24.1%	34.4%	29.1%	3.77	1.07	-0.64	-0.21
INVOLVE4	Unexciting - Exciting	2.3%	12.4%	36.1%	33.4%	15.7%	3.48	0.98	-0.21	-0.38
INVOLVE5	Unappealing - Appealing	1.7%	11.7%	23.4%	41.1%	22.1%	3.70	0.99	-0.51	-0.35
INVOLVE6	Worthless - Valuable	1.7%	10.0%	15.4%	39.1%	33.8%	3.93	1.02	-0.82	-0.02
INVOLVE7	Uninvolving - Involving	2.0%	12.4%	29.4%	35.8%	20.4%	3.60	1.01	-0.34	-0.50
INVOLVE8	Not Needed - Needed	3.0%	8.4%	12.7%	38.8%	37.1%	3.99	1.05	-1.03	0.48
INVOLVE9	Foolish - Wise	5.4%	6.7%	18.4%	41.8%	27.8%	3.80	1.08	-0.93	0.41

Note: Responses to all items were on a Semantic Differential scale from 1 to 5.

Table 6.15: Measures of Consumer Innovativeness

	Items	Response Scale					Scale Descriptives			
		(1)	(2)	(3)	(4)	(5)	Mean	SD	Skewness	Kurtosis
INNOV 1	In general, I am among the first in my circle of friends to buy travel services from the Internet		16.4%	41.1%	32.4%	10.0%	3.36	0.87	0.14	-0.65
INNOV 2	Compared to my friends, I shop for travel services via the Internet more often		13.4%	35.5%	36.5%	14.7%	3.53	0.90	-0.02	-0.77
INNOV 3	I will visit a new travel website even if I am not familiar with it		8.4%	22.7%	54.8%	14.0%	3.75	0.80	-0.50	-0.04
INNOV 4	I shop for travel services on the Internet as I see it works for many people around me*	7.7%	36.1%	39.1%	17.1%		2.66	0.85	-0.03	-0.67
INNOV 5	I shop for travel services on the Internet when I see vast majority of people around me accept it*	5.4%	30.8%	36.5%	22.7%	4.7%	2.91	0.96	0.14	-0.50

*Note: Responses to all items were on Likert scales ranging from Strongly disagree (1) to Strongly agree (5); *Item was reverse coded.*

6.5.6   Results of Consumer Innovativeness

Table 6.15 shows the results of the descriptive statistics for the consumer innovativeness construct. The measurement scale, adopted from the 'Domain Specific Innovativeness' scale by Goldsmith and Hofacker (1991), contains five items, two of which are reverse-coded (item 4 and 5). Respondents were asked to indicate their level of agreement based on a five-point Likert scale.

Of all the items, item 3 had the highest mean score (M=3.75, SD=0.80), indicating that the e-shoppers moderately agreed that unfamiliar websites were not an issue when searching for travel services. Similarly, they somewhat agreed (M=3.53, SD=0.90) that they purchased travel services more compared to their friends, but slightly unsure about whether they had adopted online shopping earlier than their friends (M=3.36, SD=0.87). Despite their innovativeness, the e-shoppers indicated that they were influenced by how Internet shopping worked for people around them (M=2.66, SD=0.85) and how these people accepted the new technology (M=2.91, SD=0.96).

Based on the overall results, e-shoppers have demonstrated a moderate level of innovativeness, especially in visiting unknown websites to search for travel information. They nearly agreed that they had adopted and shopped for more travel services online compared to their circle of friends. Further, they somewhat agreed that their adoption of travel e-shopping was likely to be influenced by people around them.

6.5.7   Results of Opinion Leadership

The descriptive statistics results for the opinion leadership construct are displayed in Table 6.16. This construct is comprised of 4 items measured by a five-point Likert scale. Only one item is reverse-coded (item 1). This item, however, exhibits the highest mean score (M=3.70, SD=0.89) of all items, which indicates that the respondents tend to relay information to people surrounding them by having conversations about shopping for travel services online. Likewise, they were quite agreed regarding their efforts to convince people (M=3.35, SD=0.88) and being sources of advice relating to online travel shopping (M=3.38, SD=1.01). They were also slightly involved with giving information about online travel shopping to a few people in the past 6 months (M=3.45, SD=1.00).

Hence, it can be fundamentally interpreted that the e-shoppers in this study are not playing a major role as opinion leaders. In some ways, they did demonstrate the characteristics of opinion leaders, but this tendency is not marked. For instance, the amount of information they provide to their friends about travel shopping online through word of mouth might be limited and not convincing. This might not fully influence others' decisions to adopt travel e-shopping. The findings are generally parallel with the moderate level of innovativeness found (see section 6.5.6) among the travel e-shoppers in this study.

Table 6.16: Measures of Opinion Leadership

	Items	Response Scale					Scale Descriptives			
		(1)	(2)	(3)	(4)	(5)	Mean	SD	Skewness	Kurtosis
OPINION 1	I never talk to my friends and neighbours about shopping for travel services via the Internet*	1.3%	9.7%	22.4%	51.2%	15.4%	3.70	0.89	-0.65	0.22
OPINION 2	In a discussion of Internet shopping for travel services, I like to convince my friends of my ideas	2.3%	11.0%	44.5%	33.1%	9.0%	3.35	0.88	-0.16	0.08
OPINION 3	Amongst my friends, I am often used as a source of advice about Internet shopping for travel services	3.3%	15.1%	35.5%	32.4%	13.7%	3.38	1.01	-0.21	-0.43
OPINION 4	In the past 6 months, I have told a number of people about Internet shopping for travel services	3.7%	14.7%	26.8%	42.8%	12.0%	3.45	1.00	-0.49	-0.28

Table 6.17: Measures of Adoption Behaviour

	Items	Response Scale					Scale Descriptives			
		(1)	(2)	(3)	(4)	(5)	Mean	SD	Skewness	Kurtosis
ADOPT 1	I use the Internet every time I need to purchase travel services		14.4%	25.1%	43.8%	16.7%	3.63	0.93	-0.29	-0.74
ADOPT 2	I want to continue using Internet shopping for travel services in the future			11.7%	55.5%	32.8%	4.21	0.63	-0.21	-0.62
ADOPT 3	I expect my usage of Internet shopping for travel services to increase in the future		1.7%	21.4%	52.8%	24.1%	3.99	0.72	-0.26	-0.34
ADOPT 4	I consider myself as a frequent Internet shopper for travel services	3.3%	16.7%	30.1%	33.1%	16.7%	3.43	1.06	-0.25	-0.63
ADOPT 5	Overall, I feel I have adopted Internet shopping for travel services		5.4%	24.1%	49.5%	21.1%	3.86	0.81	-0.37	-0.28
ADOPT 6	Overall, I am satisfied when shopping for travel services via the Internet		1.7%	14.4%	63.2%	20.7%	4.03	0.65	-0.40	0.65
ADOPT 7	My overall evaluation of the services provided by web travel retailers is that they are excellent		3.3%	31.1%	51.8%	13.7%	3.76	0.73	-0.13	-0.25

Note: Responses to all items were on Likert scales ranging from Strongly disagree (1) to Strongly agree (5); *Item was reverse coded.

6.5.8   Results of Adoption Behaviour

Descriptive statistics for the adoption construct are reported in Table 6.17. A measurement scale comprised of 7 items is used to assess the actual level of adoption of travel e-shopping. Similar to the previous scale, the respondents were asked to indicate their level of agreement with each item on a five-point Likert scale. As shown in Table 6.17, the mean scores of the measurement items were between 3.43 and 4.21. The e-shoppers in this study indicated rather strong agreement (M=4.21, SD=0.63) that they intended to continue using travel e-shopping. They also claimed that they were satisfied with online travel shopping (M=4.03, SD=0.65). Further, they predicted that they would be shopping more for travel services online in future (M=3.99, SD=0.72).

As for overall evaluation, they felt that they had adopted travel e-shopping (M=3.86, SD=0.81) and were quite happy with the services provided by web retailers. However, they were less inclined to declare that they were frequent travel e-shoppers (M=3.43, SD=1.06) using the Internet every time they wanted to shop for travel services.

From the results, it is clearly noted that the e-shoppers who participated in this study are the actual adopters of travel services. 'Adopters', in this context, does not refer to purchasing travel services via the Internet only; it also includes positive attitudes towards the technology such as liking it and using it on a regular basis (see Chapter 3). The results also imply that, generally, the e-shoppers are satisfied with their travel purchases and the overall service they receive from web retailers they have dealt with. Thus, this might influence their decision to continue to use this shopping medium and increase their future usage.

6.5.9   Normality, Skewness and Kurtosis of Measurement

As this study utilises SEM to test the research hypotheses, normality testing is important, as violation of this assumption could invalidate statistical hypothesis testing (Byrne, 1995; Hair, et al., 1998; Kline, 1998). Fundamentally, the normality of variables can be tested by skewness and kurtosis (Byrne, 1998; Kline, 1998). Zero values for both skewness and kurtosis assume perfect normality in the data distribution of the variable. Skewness can be categorized into two directions: i) positive skewness indicates a distribution with an asymmetric tail extending toward more positive values and ii) negative skewness shows a distribution with an asymmetric tail extending toward more negative values. Kurtosis refers to the proportions of scores in the middle of a distribution or in its tails relative to those in a normal curve, and it usually explains the relative peakedness or flatness of a distribution compared to the normal distribution. Positive kurtosis indicates a relative peak, while

negative kurtosis indicates a relative plateau. In this study, the normality of data in terms of skewness and kurtosis are examined by SPSS 12.

As a rule of thumb, Byrne (1998) suggested that variables can be considered as moderately non-normal if they indicate skewness values ranging from 2.00 to 3.00 and kurtosis values from 7.00 to 21.00; extreme normality is defined by skewness values greater than 3.00 and kurtosis values greater than 21. The skewness and kurtosis results for each measurement scale for the eight constructs are examined and reported in Tables 6.10 to Table 6.17. With the above categories as guidelines, and with skewness and kurtosis values of less than 1.05 in all of the measurement items for the eight constructs, it can be considered that generally, the measurement items are normally distributed and any further treatments of the data, such as log-transformation, are not required. Apart from skewness and kurtosis, there are also other methods that can be used to test normality, such as scatter plots and residual plots. The subsequent section presents these tests with regard to the multivariate normality test.

Having reported all means, standard deviations, responses, skewness and kurtosis for perceived usefulness, perceived ease-of-use, perceived risk, trust, consumer innovativeness, consumer involvement, trust and adoption, the descriptive analysis of the research measurement is completed at this point. The following section proceeds with more important issues in research, namely the reliability and validity of the variables. The steps of reliability and validity testing are discussed and interpreted in detail in the next section, utilizing various approaches, tools and formulae.

PART 3

6.6 Reliability and Validity of Measurement

The focus of the preceding section was to report the findings of the descriptive analysis, while this section devotes its attention to an assessment of the reliability and validity of the data. This study basically follows three sequential steps, as suggested by Igbaria et al. (1995). The first step involves item reliability assessment, where items with low reliability are dropped from the constructs. This is to ensure that only reliable measures of constructs are used to determine the relationships among constructs in the subsequent stage. In the second step, the constructs are tested in terms of measurement properties and structural paths. The measurement properties are examined through i) item reliability; ii) internal consistency, iii) average variance extracted (AVE) and iv) factor analysis loadings. These properties are known as convergent validity tests (Fornell and Larcker, 1981). In this stage, non-significant paths or constructs might be dropped, thus resulting in revised measurement constructs. Finally, in the third step, constructs are examined using Structural Equation Modelling (SEM), which is presented in the next chapter (see Chapter 7).

6.6.1 Reliability of Measurement Scales

As stated by Straub (1989, p.151), "*high correlations between alternative measures or large Cronbach alphas are usually signs that the measures are reliable*". There is no standard cut-off point for the alpha coefficient, but the generally agreed upon lower limit for Cronbach alpha is .70, although it may decrease to .60 (Hair et al., 1998) or even .50 (Nunnally, 1978) in exploratory research.

Table 6.18 presents the initial reliability examination of the measurement scales. The Cronbach alpha coefficients were calculated in SPSS 12 along with item-to-total correlations (ITC). The Cronbach alphas of each construct are shown to be above 0.70, showing a high degree of internal consistency. The consumer involvement scale shows the highest alpha value at 0.93, while perceived risk indicates the lowest alpha at 0.79. In total, 9 items were deleted from the scales of perceived ease-of-use, perceived risk, trust and consumer innovativeness. The item deletion process was performed in order to increase the alpha value. Items were deleted based on ITCs of less than .50. The items were deleted one at a time, starting with the one with the lowest ITC, and the reliability for the new alpha value was re-tested, as shown in Table 6.18. However, more caution regarding the deleted items has been taken in further analysis. In order to make sure that constructs with low Cronbach alpha do not cause a problem, a more stringent test of reliability is

taken. This involves assessing the amount of variance captured by construct measures in relation to the amount of variance due to measurement error (Fornell and Larcker, 1981).

Table 6.18: Results of Multi-Item Reliability and Validity Test

	Items	Item-total correlation	Cronbach alpha
	Perceived Usefulness Scale		
USEFUL 1	Internet shopping for travel services gives me greater control over my purchase decision	.6065	.8780
USEFUL 2	Internet shopping for travel services enables me to save my time	.6099	
USEFUL 3	Shopping for travel services via the internet is more convenient than visiting travel agent outlets	.6988	
USEFUL 4	Internet shopping makes it possible to shop for travel services at my convenience (anytime, anywhere)	.6908	
USEFUL 5	Internet shopping enables me to buy travel services at special rates/ offers	.6378	
USEFUL 6	Using the internet to shop for travel services can increase my shopping effectiveness	.6802	
USEFUL 7	Overall, I find shopping for travel services on the Internet to be useful	.7324	
	Perceived Ease-of-use Scale		
EASE 1	I find using the Internet for shopping for travel services to be confusing*#	.4429	.8645
EASE 2	It is easy to deal with instructions & menus given on websites while shopping for travel services	.5247	
EASE 3	It is easy for me to become skilful at using the Internet to shop for travel services	.6104	
EASE 4	I find it easy to search for travel information via the websites I use	.6480	
EASE 5	Shopping for travel services via the Internet requires advanced computing skills*#	.2469	
EASE 6	Overall, I find it easy to use the Internet to shop for travel services	.6375	
	Perceived Risk Scale		
RISK 1	The cost of purchasing a travel service on the Internet can end up being higher than expected*#	.2730	.7947
RISK 2	If a travel purchase cost more than, say £1000, I would rather not pay this on the Internet*#	.3830	
RISK 3	The quality of the travel services purchased from the Internet generally does not meet my expectation*	.5411	
RISK 4	I feel uncertain whether travel retailers are efficient in dealing with sales transactions on the Internet*	.5425	
RISK 5	Using the Internet to shop for travel services would lead to a loss of privacy*	.6136	
RISK 6	I am uncomfortable giving my credit card number when booking for travel services on the Internet*	.4812	
RISK 7	Overall, it is risky to shop for travel services via the Internet*	.5846	
	Trust Scale		
TRUST 1	I trust the Internet reservation/ booking systems when shopping for travel services	.6830	.8518
TRUST 2	I trust the Internet payment/ transaction systems when shopping for travel services	.6927	
TRUST 3	I trust that web travel retailers have sufficient expertise to perform business on the Internet	.6948	
TRUST 4	I trust that web travel retailers keep my best interests in mind	.5149	
TRUST 5	In overall, I don't trust shopping for travel services via the Internet*#	.1731	
	Consumer Involvement Scale		
INVOLVE1	Unimportant - Important	.5213	.9307
INVOLVE2	Boring - Interesting	.7047	
INVOLVE3	Irrelevant - Relevant	.7526	
INVOLVE4	Unexciting - Exciting	.7382	
INVOLVE5	Unappealing - Appealing	.8260	
INVOLVE6	Worthless - Valuable	.7976	
INVOLVE7	Uninvolving - Involving	.7945	
INVOLVE8	Not Needed - Needed	.7738	
INVOLVE9	Foolish - Wise	.7755	
	Consumer Innovativeness		
INNOV 1	In general, I am among the first in my circle of friends to buy travel services from the Internet	.3234	.8521
INNOV 2	Compared to my friends, I shop for travel services via the Internet more often	.4121	
INNOV 3	I will visit a new travel website even if I am not familiar with it #	.1712	
INNOV 4	I shop for travel services on the Internet as I see it works for many people around me*#	.0675	
INNOV 5	I shop for travel services on the Internet when I see vast majority of people around me accept it*#	.1130	
	Opinion Leadership Scale		
OPINION 1	I never talk to my friends and neighbours about shopping for travel services via the Internet*#	.3281	.8078
OPINION 2	In a discussion of Internet shopping for travel services, I like to convince my friends of my ideas	.5595	
OPINION 3	Amongst my friends, I am often used as a source of advice about Internet shopping for travel services	.6669	
OPINION 4	In the past 6 months, I have told a number of people about Internet shopping for travel services	.6817	
	Adoption Behaviour Scale		
ADOPT 1	I used the Internet every time I need to purchase travel services	.5971	.8716
ADOPT 2	I want to continue using Internet shopping for travel services in the future	.7158	
ADOPT 3	I expect my usage of Internet shopping for travel services to increase in the future	.5790	
ADOPT 4	I consider myself as a frequent Internet shopper for travel services	.6438	
ADOPT 5	Overall, I feel I have adopted Internet shopping for travel services	.7981	
ADOPT 6	Overall, I am satisfied when shopping for travel services via the Internet	.7244	
ADOPT 7	My overall evaluation of the services provided by web travel retailers is that they are excellent	.6060	

Note: *Item was reverse coded. #Item was deleted

6.6.2 Validity of Measurement Scales

As described in Chapter 5 (see Section 5.5.4), validity refers to the extent to which a set of measurement items or indicators measures what they are supposed to measure (Hair et al., 1998). In order to claim the validity of an instrument, it is necessary to have both convergent and discriminant validity (Trochim, 2002). *Convergent validity* refers to the state when items measure their intended construct and no other construct, whereas *discriminant validity* is confirmed when the construct as a whole differs from the other constructs (Straub, 1989). The convergent validity of the measurement scales of the study is derived from the Exploratory Factor Analysis (EFA) results, which will be explained in the following sub-section.

i. Exploratory Factor Analysis

The main purpose of the EFA test is to confirm whether items are loaded exactly to the corresponding constructs as identified by previous research. Other than convergent validity assessment, EFA also assesses the dimensionality, measurement and psychometric properties of scale items used in this study. Therefore, following the reliability test result, a total of 41 items was factor analyzed using Principal Component Factor Analysis utilizing Promax Rotation with Kaiser Normalization. The EFA result indicates that the pool of items captured seven distinct factors, including the dependent variable. Upon inspecting the factor solution, the item loadings and the anti-image correlation matrix, a total of 6 items were deleted (i.e. INVOLVE1, USEFUL1, ADOPT7, RISK3, RISK4 and EASE6) and no longer considered for subsequent analyses. These items were either cross loadings or had loadings below 0.40. Then, the remaining 35 items were again subjected to EFA and a final 7-factor model was estimated, in which none of the items indicated low factor loadings (below .40) or high cross loadings (above .40). Table 6.20 shows the results of the EFA. The results also show that the consumer innovativeness scales (INNOV) were loaded together with opinion leadership scales (OP). The new factor, consisting of INNOV and OP, is grouped together for subsequent analysis. **The 7-factor solution accounted for 68.4% of the total variance, as shown in Table. 6.22.**

As suggested by Nunnally and Bernstein (1997) and Chin et al. (1997), a combination of the Kaiser-Guttman Rule (Eigenvalue>1) and scree-plot were utilized to determine the most appropriate component solution. Kaiser-Mayer Olkin's Measure of Sampling Adequacy (MSA) test and Bartlett's Test of Sphericity (BTS) were conducted to assess the suitability of the survey data for factor analysis (Hair et al., 1998). Table 6.19 shows the results of these tests. As described in the previous chapter (see Section 5.5.2), the MSA is a statistical test that indicates the proportion of variance in the variables which is common variance, while the BTS is a statistical test for the presence of correlations among the

variables. The MSA index ranges from 0 to 1, reaching 1 when each variable is perfectly predicted without error by the other variables. The measure can be interpreted with the following guidelines: (.90) or above is marvellous, (.80) is meritorious, (.70) is middling, (.60) is mediocre, (.50) is miserable and below (.50) is unacceptable (Hair et al., 1998). **The result of the MSA test of this study is .919, which indicates a marvellous level of prediction.**

The BTS significance level indicates the result of the test. Small values (<.05) indicate that the data do not produce an identity matrix and, hence, are suitable for factor analysis. Conversely, larger values indicate that the data produce an identity matrix and, hence, are not suitable for factor analysis. In this study, the significance level of BTS is .000, which means that the data are appropriate for factor analysis. The results of the MSA and BTS tests show that the data meet the fundamental requirements for factor analysis.

Table 6.19: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.919
Bartlett's Test of Sphericity	Approx. Chi-Square	8008.984
	df	820
	Sig.	.000

Table 6.20: Factor Analysis and Convergent Validity Analysis

Factor/ Constructs/ Items	Items Loading	Composite Reliability	AVE
Factor 1: Perceived Usefulness		0.857	0.502
USEFUL4	0.819		
USEFUL3	0.750		
USEFUL7	0.727		
USEFUL6	0.694		
USEFUL5	0.623		
USEFUL2	0.616		
Factor 2: Perceived Ease-of-use		0.713	0.455
EASE2	0.760		
EASE4	0.660		
EASE3	0.594		
Factor 3: Perceived Risk		0.810	0.592
RISK6	0.908		
RISK7	0.740		
RISK5	0.635		
Factor 4: Consumer Involvement		0.942	0.672
INVOLVE6	0.929		
INVOLVE8	0.908		
INVOLVE9	0.861		
INVOLVE7	0.850		
INVOLVE5	0.839		
INVOLVE3	0.787		
INVOLVE4	0.710		
INVOLVE2	0.630		
Factor 5: Opinion Leadership & Consumer Innovativeness		0.820	0.479
OPINION3	0.825		
OPINION2	0.710		
OPINION4	0.601		
INNOV1	0.673		
INNOV2	0.630		
Factor 6: Trust		0.858	0.602
TRUST2	0.835		
TRUST3	0.791		
TRUST1	0.785		
TRUST4	0.686		
Factor 7: Adoption		0.868	0.529
ADOPT5	0.860		
ADOPT2	0.843		
ADOPT4	0.778		
ADOPT6	0.664		
ADOPT3	0.642		
ADOPT1	0.516		

Note:
Extraction Method: Principal Component Analysis; Rotation Method: Promax with Kaiser Normalization.

ii. Convergent Validity

Based on the formula presented in Chapter 5 (Section 5.5.4) the convergent validity was measured based on items loading through the composite reliability and average variance extracted (AVE) (see Table 6.20). **The result indicates that all constructs exceed the minimum requirement for validity. The composite reliability result shows that all constructs were above the acceptable value of 0.70 (Barclay et al., 1995). This result signifies that convergent validity was established because all the items loaded strongly on their associated factors (loading>0.50) and each of the factors loaded stronger on their associated factors rather than on any other factors (Chau and Tam, 1997). Fornell and Larcker (1981) state that if AVE is less than 0.50, then the validity of the individual items and the construct is questionable. The result also reveals that Factor 2 and Factor 5 indicate somewhat low validity at AVE 0.455 and 0.479 respectively. However, other constructs show satisfactory AVE above 0.50. This result also supported the claim for the reliability of the study measures.**

Other than EFA and AVE, convergent validity can also be assessed by examining the t-tests for confirmatory factor analysis (CFA) loadings. Statistically significant t-tests for all CFA loadings can indicate effective measurement of the same construct (Anderson and Gerbing, 1988; Hair et al., 1998). This result will be presented in the SEM analysis (see Chapter 7).

iii. Discriminant Validity

Discriminant validity was evaluated by comparing the AVE values associated with each construct to the correlations among constructs (Staples et al., 1999). Table 6.21 shows the results of the discriminant validity analysis. Diagonal numbers present the square root of the AVE (see Table 6.20), whereas the off-diagonal numbers show the correlations among constructs. In order to claim discriminant validity, the diagonal elements should be larger than any other corresponding row or column entry (Barclay et al., 1995; Staples et al., 1999). **The result shows that each construct differs sufficiently from the other constructs, as their AVE-squared values are bigger than the correlation coefficients. Therefore, the factor measurements demonstrate discriminant validity.**

Table 6.21: Discriminant Validity Analysis

Factor	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Factor 1	**.820**						
Factor 2	.369	**.727**					
Factor 3	.320	.514	**.708**				
Factor 4	.353	.370	.350	**.776**			
Factor 5	.296	.469	.234	.353	**.692**		
Factor 6	.342	.316	.444	.348	.319	**.675**	
Factor 7	.264	.359	.318	.332	.147	.200	**.769**

Note: Bold diagonal elements are the square root of AVE.
Off diagonal elements are the correlations between constructs.

In order to ensure that the seven factors extracted from this study explain at least a specified amount of variance, the percentage of variance criterion approach was used for validation. Table 6.22 gives a summary of the eigenvalues, percentages of variance explained and cumulative variance explained by the factor solution. The extraction sums of squared loadings group gives information regarding the extracted factors or components. For principal components extraction, these values are the same as those reported under initial eigenvalues.

Table 6.22: Eigenvalues and Total Variance Explained

	Initial Eigenvalue			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.605	33.156	33.156	11.605	33.156	33.156	7.707
2	3.435	9.816	42.972	3.435	9.816	42.972	7.674
3	2.560	7.315	50.287	2.560	7.315	50.287	6.936
4	2.174	6.211	56.498	2.174	6.211	56.498	5.950
5	1.878	5.366	61.864	1.878	5.366	61.864	5.482
6	1.227	3.505	65.369	1.227	3.505	65.369	5.610
7	1.087	3.107	68.476	1.087	3.107	68.476	3.931

In a good factor analysis, a few factors explain a substantial portion of the variance and the remaining factors explain relatively small amounts of variance, which is the case in these results. Although there is no absolute threshold that can be adopted, in social sciences, where information is often not precise as in natural sciences, a combination of factors that accounts for 60 percent of the total variance (and in some cases even less) is deemed satisfactory (Hair et al., 1998). **The results show that the first factor (construct) accounts for a large percentage of the total variance (33.16%) and the seven factors that are extracted account for 68.476 percent of the total variance. Based on these findings, it can be concluded that all seven factors could be used to investigate the research questions. The ultimate solution demonstrated both convergent validity**

and discriminant validity. It is important to note that the construct validity will also be reported in Chapter 7, along with the results of CFA in SEM, as CFA is capable of producing empirical evidence of construct validity. The following section describes the regression analysis of the constructs prior to the SEM.

6.7 Preliminary Regression Analysis

Before proceeding to SEM analysis, it is worth noting the results of the research hypotheses in the application of normal regression analysis. This result would be useful in comparing the best model produced between normal regression and SEM, while providing a rough idea about the relationships amongst the constructs before the SEM takes place. As a normal procedure of regression analysis, statistical assumptions were first checked and multiple regression was used to pre-test the proposed model.

6.7.1 Checking the Assumptions

Several assumptions for the data should be met in order to apply a valid regression model. Wonnacott and Wonnacott (1981) argued that if the assumptions of linearity, normality and independence are upheld, additional assumptions such as fixed values of X are not problematic. As Berry and Feldman (1985) pointed out that most regression assumptions are concerned with residuals, this section demonstrates how the assumptions of regression are examined in this study.

i. Multicollinearity and Singularity

Multicollinearity is a condition in which the independent variables (IV) are very highly correlated (.90 or greater) and singularity is when the IVs are perfectly correlated and one IV is a combination of one or more of the other IVs. As the calculation of the regression coefficients is done through matrix inversion, if singularity exists, the inversion is impossible, and if multicollinearity exists the inversion is unstable. As a result, the IVs are redundant with one another. The test of multicollinearity was performed via SPSS and the results are presented in the second last column of Table 6.23. This is calculated by the formula ($1-R^2$) for each variable. If this value is very low (near 0), this indicates that the multiple correlation with other variables is high, which suggest multicollinearity. **The result of the multiple regression shows that the values of the independent variables are quite respectable (between .489 and .800), so the variables appear not to violate the assumption.**

ii.   Multiple Outliers

Outliers are often operationally defined as cases that have a standardised residual of more than 3.3 or less than -3.3 (Tabachnick and Fidell, 2001). If the cases that produced the outliers are not part of the same 'population' as the other cases, then it may be better to delete those cases, or alternatively, they may be retained or extreme values reduced (see Chapter 7, Section 7.1.1). However, in large samples, it is not uncommon to find a number of outlying residuals. To check the outliers for the multiple regressions, the Mahalanobis distances from the SPSS multiple regression output are used. Based on the guidelines from Tabachnick and Fidell (2001), the critical Chi-square value of the regression model is used as the maximum acceptable value. To determine the number of cases that are considered as outliers, the Mahalanobis distances for each case were checked against the critical value. For 7 independent variables of a regression model, the critical value taken from the guidelines is 24.32 (see Tabachnick and Fidell, 2001). As shown in Figure 6.9, only two outlying cases were found, ID no. 33 and 193, with Mahalanobis distances at 32.12 and 32.29 respectively. However, given that the size of the data file is quite large, it is not unusual for a few outliers to appear (Tabachnick and Fidell, 2001). Appendix 6.5 presents the details of the Mahalanobis distance and the critical value guidelines.

Figure 6.9:   Multivariate Outliers
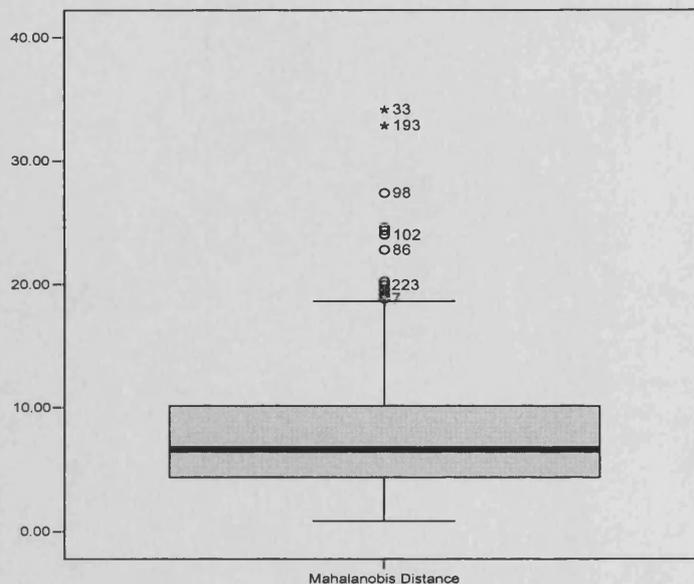
iii.   Homoscedasticity, Linearity and Normality

There are two common ways that the assumptions of Homoscedasticity, Linearity and Normality can be checked at the same time. The first is by inspecting the residuals of the scatterplot and the second is by using a Normal Probability Plot of the regression standardised residuals. The assumption of homoscedasticity is that the residuals are

approximately equal for all predicted dependent variable (DV) scores. Homoscedasticity can be checked by looking at the residuals plot, which also examines linearity and normality. As shown in Figure 6.10, the scatterplot of standardised residuals is roughly rectangularly distributed, with most scores concentrated in the centre. The residuals plot shows that the data are fairly homoscedastic. The scatterplot also demonstrate that the data meet the assumptions of linearity and normality because the residual plot is rectangular, with a concentration of points along the centre. Deviations from the centralised rectangle suggest some violation of homoscedasticity, linearity and normality. Heteroscedasticity is usually shown by a cluster of points that is wider as the values for the predicted DV get larger.

Figure 6.10: Scatterplot of Standardised Residual
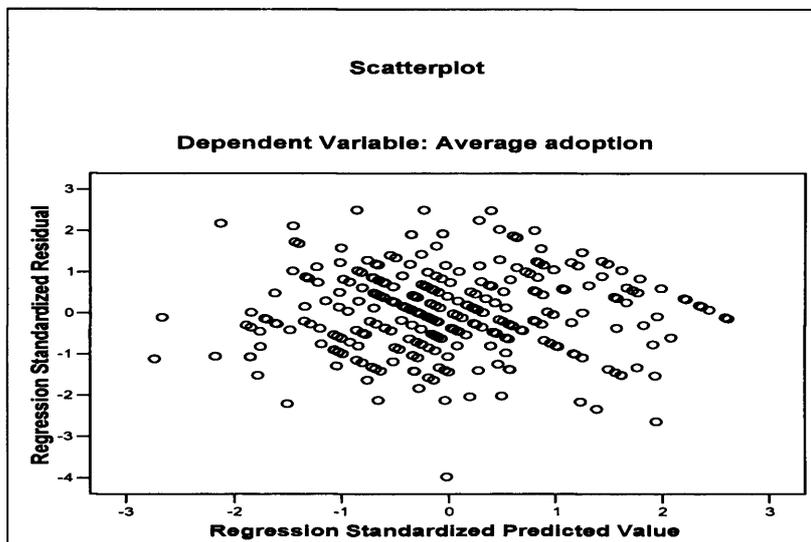
In the Normal Probability Plot, as shown in Figure 6.11, the points lie in a reasonably straight diagonal line from bottom left to top right. As for linearity, this means that there is a straight-line relationship between the IVs and the DV. This assumption is important because regression analysis only tests for a linear relationship between the IVs and the DV. This also suggests no major deviations from normality. Thus, checking that data are normally distributed should cut down on the problem of heteroscedasticity.

Figure 6.11:   Normal Probability Plot of Standardised Residual

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Average adoption
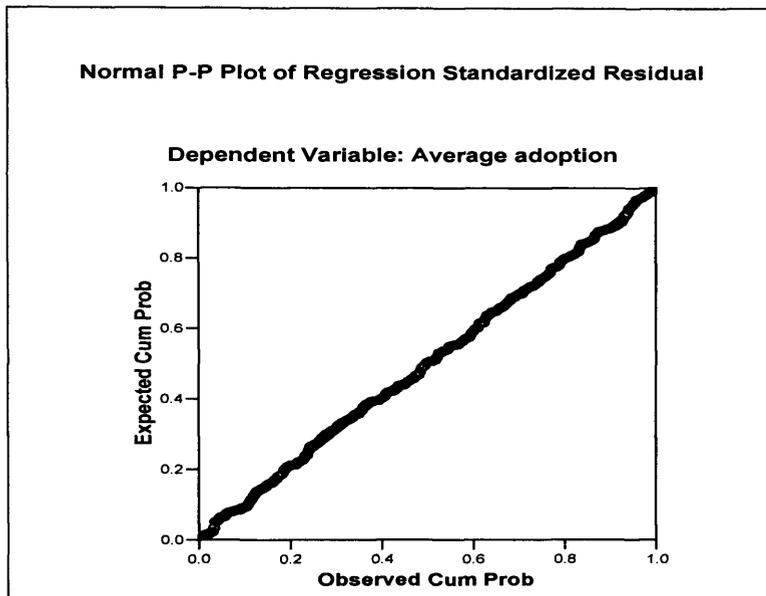
Since all the necessary assumptions have been met, as confirmed by the above-mentioned tests, regression analysis was carried out. The next section presents the results of the regression analysis models.

6.7.2   Regression Analysis Results

The regression analysis was divided into four models, which were conducted separately to make up the entire model of Internet shopping adoption. Figure 6.12 displays the conceptual model with hypotheses paths. All the original items measuring each construct were averaged in order to obtain a single score for each variable (mean) for the regression analysis. The result for each regression model is shown in Table 6.23.

Figure 6.12: Proposed Model and Hypotheses Paths
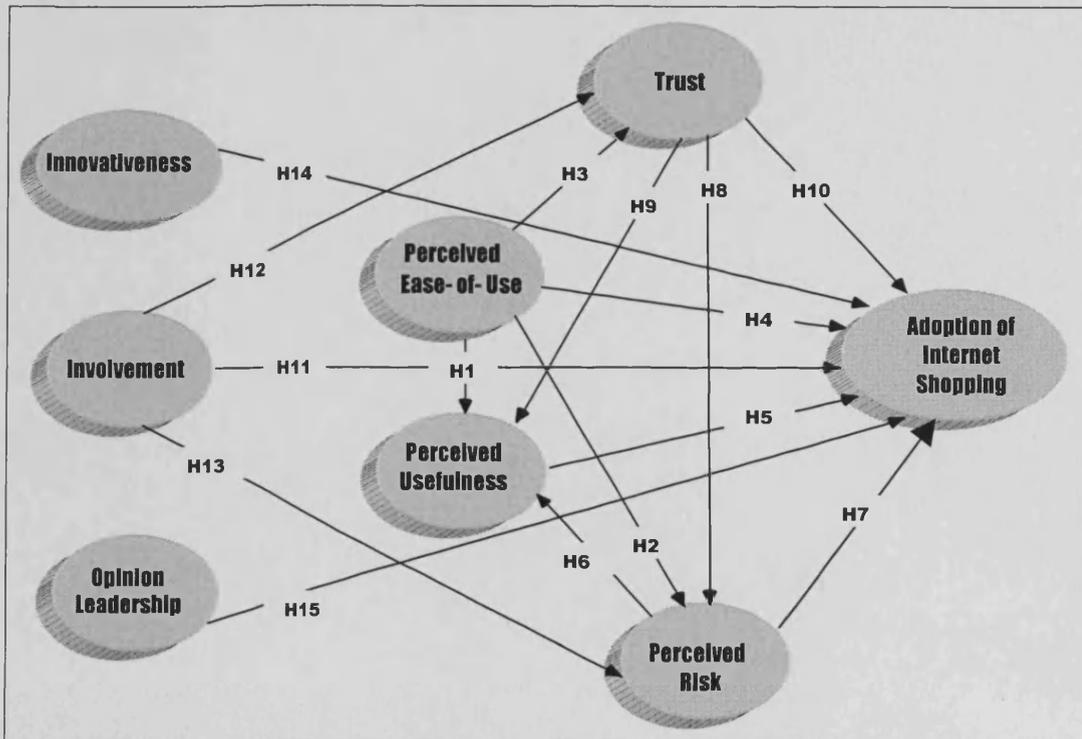
Source: this study

As can be seen in Figure 6.12, the proposed model consists of four dependent variables that build upon Models 1, 2 and 3 of the regression. They are amongst the important indicators for the entire adoption model (Model 4). All four models tested are statistically significant (p=.000) and the variances explained (R^2) by each model are, in ascending order, 27 percent (Model 3 - Trust), 31 percent (Model 2 - Perceived Risk), 45 percent (Model 1 - Perceived Usefulness) and 59 percent (Model 4 - Adoption).

Table 6.23: Results of Multiple Regressions of the Proposed Model

Model	Dependent Variables	Independent Variables	Beta	t-value	Sig.	Collinearity	Model Summary
1	Perceived Usefulness	Trust	.171	3.325	.001**	.703	F=81.680 p=.000 R=.674 R²=.454 Adj. R²=.448
		Perceived Ease-of-use	.529	10.258	.000*	.697	
		Perceived Risk	.081	1.593	.112#	.712	
2	Perceived Risk	Consumer Involvement	.159	2.843	.005**	.754	F=43.626 p=.000 R=.554 R²=.307 Adj.R²=.300
		Perceived Ease-of-use	.267	4.590	.000*	.695	
		Trust	.267	4.714	.000*	.730	
3	Trust	Consumer Involvement	.235	4.223	.000*	.800	F=54.693 p=.000 R=.519 R²=.270 Adj.R²=.265
		Perceived Ease-of-use	.370	6.668	.000*	.800	
4	Adoption	Perceived Usefulness	.227	4.400	.000*	.530	
		Perceived Ease-of-use	.137	2.548	.011***	.489	
		Consumer Involvement	.116	2.585	.010***	.703	F=59.668 p=.000 R=.768 R²=.589 Adj.R²=.579
		Opinion Leadership	.183	3.830	.000*	.618	
		Consumer Innovativeness	.300	6.193	.000*	.599	
		Trust	-.077	-1.620	.106#	.631	
		Perceived Risk	.179	3.935	.000*	.684	

Note: Beta: Standardized regression coefficients (β)
*p<.001; ** p< .01; ***p<.05; #insignificance

From the above table, the results of Model 1 suggest that trust and perceived ease-of-use may explain the perceived usefulness of the Internet for shopping for travel services. Many previous studies have found the same effect of these two variables on perceived usefulness (Venkatesh, 1999; Venkatesh and Davis, 2000; Jarvenpaa et al., 2000; Koufaris, 2002). However, the statistically non-significant coefficient for perceived risk suggests that this variable could possibly be dropped from Model 1. In Model 2, all three outcomes are statistically significant and explain about 31 percent of the variance in perceived risk. Trust is the most significant variable for perceived risk, followed by perceived ease-of-use and consumer involvement. This implies that trust, ease-of-use and involvement do have an influence on the perceived risk of Internet shopping adoption. As for Model 3, both perceived ease-of-use and consumer involvement are statistically

significant; nevertheless, only 27 percent of variance is explained in the trust model. Perceived ease-of-use contributes the most to trust, followed by the consumer involvement variable.

In the final set of regression analyses (Model 4), adoption of Internet shopping was regressed on perceived ease-of-use, consumer innovativeness, opinion leadership, consumer involvement and the three earlier regressed models, perceived usefulness, perceived risk and trust. Consumer innovativeness apparently contributes the highest amount of variance explained in adoption, followed by perceived usefulness and opinion leadership. The coefficients for perceived of use and consumer involvement are approximately the same. Trust is not significant in explaining the adoption of travel e-shopping. This suggests that the variables should be removed from the adoption model. Table 6.24 presents a summary of the regression results explaining all related hypotheses with regard to the model of Internet shopping adoption.

Table 6.24: Multiple Regression and Hypotheses Test Results

Hypotheses and Hypothesised Path				Results
H1:	Perceived Ease-of-use	➜	Perceived Usefulness	Supported
H2:	Perceived Ease-of-use	➜	Perceived Risk	Supported
H3:	Perceived Ease-of-use	➜	Trust	Supported
H4:	Perceived Ease-of-use	➜	Adoption	Supported
H5:	Perceived Usefulness	➜	Adoption	Supported
H6:	Perceived Risk	➜	Perceived Usefulness	Rejected
H7:	Perceived Risk	➜	Adoption	Supported
H8:	Trust	➜	Perceived Risk	Supported
H9:	Trust	➜	Perceived Usefulness	Supported
H10:	Trust	➜	Adoption	Rejected
H11:	Consumer Involvement	➜	Adoption	Supported
H12:	Consumer Involvement	➜	Trust	Supported
H13:	Consumer Involvement	➜	Perceived Risk	Supported
H14:	Consumer Innovativeness	➜	Adoption	Supported
H15:	Opinion Leadership	➜	Adoption	Supported

The preliminary regression analyses suggest ways to pare down the structural model. From fifteen hypotheses listed in Table 6.24, only two hypotheses are not supported by the data collected. In the regression models, perceived risk seems to have exhibited no effect on the perceived usefulness of travel Internet shopping. Likewise, trust appears not to influence the decision to adopt travel e-shopping. From these results, it was determined that trust may not be an antecedent of the adoption of travel e-shopping. It could be removed from the model to improve model parsimony, as it is insignificant in explaining the proposed model. It is important to note that in the next chapter, the proposed model is re-tested to determine whether the observed effects in the current regression results differ significantly when using simultaneous multiple regression in SEM. Following this, a lengthy discussion of the hypotheses' results is presented in the subsequent chapter.

6.8 Conclusion

This chapter began with a description of the sample's demographic and geodemographic characteristics, buying behaviour and patterns. The initial descriptive results provide the background of the sample profile and their consumption patterns and behaviour with regard to travel e-shopping. The overall result shows that the e-shoppers who participated in this study are from the middle age and social groups, have high educational levels, are married without children, and about 50 percent of them are located in the eastern and southern parts of the UK, including London. They consist of early adopters and late adopters.

The overall result of the construct measures, based on five-point Likert scales, indicates that the measurement scale for each construct satisfies at least the minimum acceptance level of normality, skewness and kurtosis, as reported in Tables 6.10 to 6.17. The overall results derived from other variables reveal that the majority of the mean values are higher than 3, which is the mid-point of the scales employed. Accordingly, most of the standard deviations yield a value of less than 1, which implies that the data are distributed closely around the mean and are consistent.

Finally, the assessment of reliability and validity of each measurement scale is presented. The overall result indicates that seven constructs demonstrated both convergent validity and discriminant validity. Results observed in this procedure are important for further statistical analysis, which will utilise more robust and sophisticated statistical procedures such as exploratory factor analysis, confirmatory factor analysis, correlation analysis and structural equation modelling, employing the AMOS statistical software.

DATA ANALYSIS II: STRUCTURAL EQUATION MODELLING

"No entrepreneur I know is motivated by money. It's the idea. Seeing how far it will go."

– Anita Roddick –
– Daily Telegraph (11 November 1987) –

THE THESIS STRUCTURE

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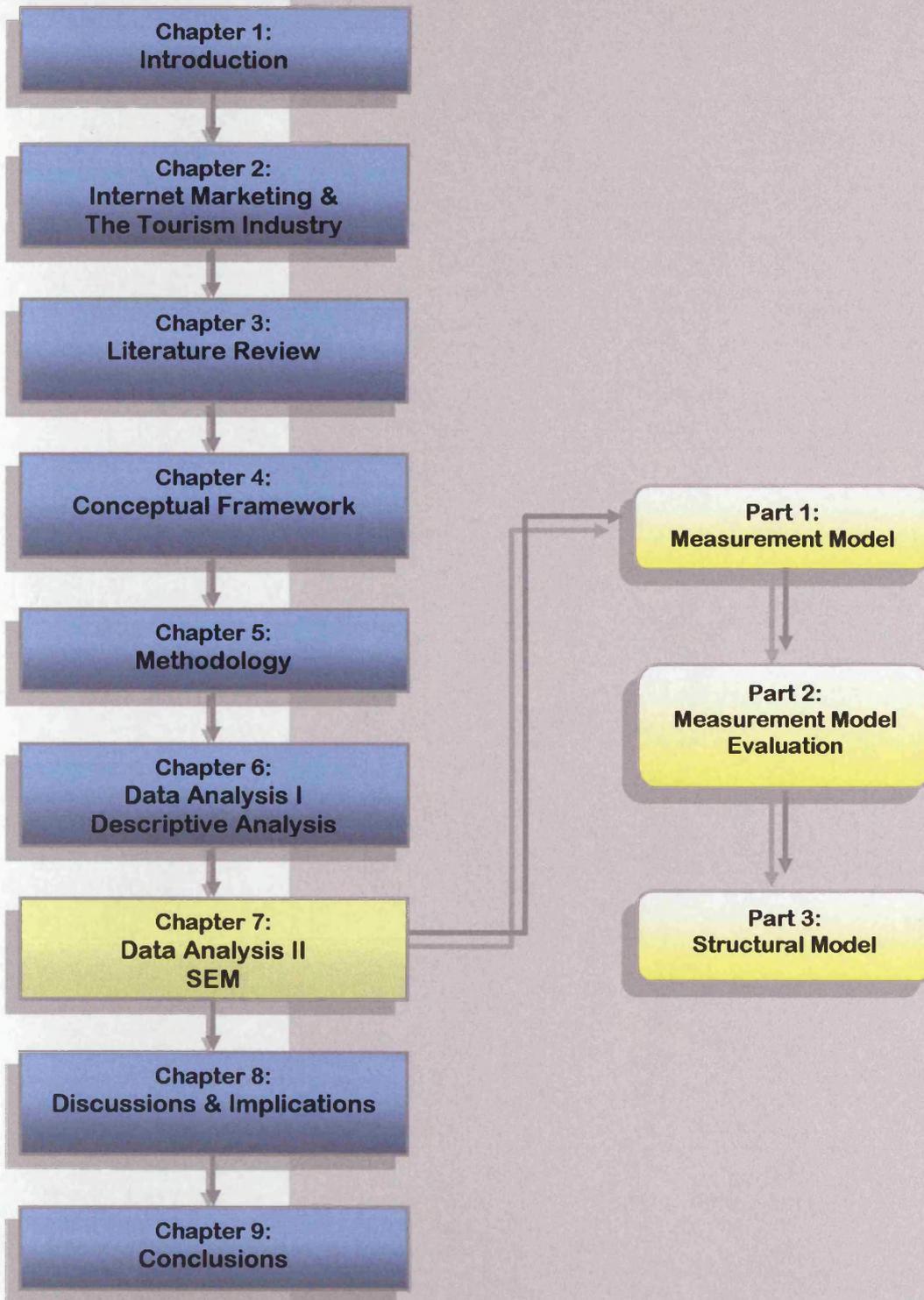
Chapter Seven
DATA ANALYSIS II:
STRUCTURAL EQUATION MODELLING

7.0   Introduction

The aim of the preceding chapter was to present the descriptive findings of the data, while this chapter focuses on the analytical process of the multivariate analysis: in this case, Structural Equation Modelling (SEM) using the AMOS software package. This chapter is organised into two parts: Part 1 focuses on the evaluation of the measurement model and Part 2 on the structural model.

Based on the SEM data analysis procedure presented in Chapter 5 (see Section 5.6.5), this chapter commences by describing the data preparation and screening steps for the analysis, which entails procedures such as detection of missing data, outliers and normality. The next step concerns measurement item purification. This procedure, however, has already been performed in Chapter 6 (see Section 6.6) and the results of the internal consistency analysis and the exploratory factor analysis were presented in Tables 6.18, 6.19 and 6.20. Subsequently, the measures generated from these analyses will be subjected to Confirmatory Factor Analysis (CFA) in order to validate them with a more robust procedure, which is discussed in Part 1 of this chapter. Prior to CFA, all constructs in the study will be re-examined in terms of unidimensionality, reliability and validity utilising SEM indicators. Then, Part 2 proceeds with the structural model analysis, by examining the overall fit of the proposed research model presented in Chapter 4. To this end, the plausibility of the hypothesised links among the latent constructs will be established.

As briefly introduced in Chapter 5 (see Section 5.6.5), the SEM analysis can be separated into two parts (Anderson and Gerbing 1988); the measurement model is typically concerned with the validation of constructs and the structural model focuses on the substantive relationships of the validated constructs. It is important to note that the term 'validation' means demonstrating measure unidimensionality (having one underlying construct), reliability (comparatively free of measurement error) and validity (measuring what it should) (Ping, 2004).

Based on the methodological rationale explained in Chapter 5 (see Section 5.6.3 and 5.6.7), this study adopts the **two-step approach,** which begins with the validity assessment of the measurement model. When the validity of the measurement model has been established, the second step follows in Part 2, which is the estimation of the overall structural models (Anderson and Gerbing, 1988). In contrast, **the one-step approach** entails both the measurement and the structural model being estimated simultaneously (Hair et al., 1998). This approach is considered appropriate when the model possesses a strong theoretical rationale and the measures used in the study are highly reliable (Hair et al., 1998).

7.1 Measurement Model

The measurement model specifies how the latent variables or the hypothetical constructs are measured in terms of the observed variables. The main purpose of a measurement model in SEM is to describe how well the observed indicators serve as a measurement instrument for the latent variables. This could be achieved by assessing the dimensionality, validity and reliability of the measurement properties. The testing of the structural model may be meaningless unless it is first established that the measurement model holds. The measurement model process commences with the data preparation and screening.

7.1.1 Data Preparation and Screening

According to Kline (1998) there are two main reasons why the researcher has to pay particular attention to data preparation and screening prior to SEM analyses: (1) SEM requires certain assumptions about the distributional characteristics of the data set used for the analysis (2) data related problems could be the reason why model estimation and fitting programs fail to produce solutions, and could at times cause the program to 'crash'.

There are three common issues with regard to data preparation and screening, namely *missing data, outliers* and *normality.* The following discussions are somewhat similar to the

issues discussed in Chapter 6 (see Section 6.7.1) on the assumptions of multiple regressions but different in terms of the analytical method applied.

Missing Data

The issue of missing data becomes crucial because it creates difficulty in scientific research, and to make matters worse, most data analysis procedures were not designed to take account of them (Schafer and Graham, 2002). As a consequence, the missing data will cause two main problems: (1) lost data will decrease the ability of a statistical test to imply a relationship in a dataset and (2) biases will arise on the parameter estimates (Roth, 1994; Hair et al. 1998; De Vaus, 2001). However, as the research design of the present study has employed an online survey, the missing data issue has been addressed at the data collection stage. The online survey setting required the respondents to answer every question of the survey before submitting. As a result, there were no missing values present in the data set.

Outliers

Outliers are extreme cases on one variable, or a combination of variables, which have a strong influence on the calculation of statistics. An outlier is a score, or set of scores, that significantly departs from others. There are two forms of outliers: univariate and multivariate. A univariate outlier is an extreme score on one variable, which differs noticeably from the others, whilst an odd combination of scores on two or more variables is a multivariate outlier. Chapter 6 has briefly discussed the multiple outliers of the research constructs through the Mahalanobis distance test (see Section 6.7.1).

Outliers can potentially occur due to mistakes in responding to the questionnaire by respondents, errors in data recording or respondents who may not represent the targeted population under study (West et al., 1995; Tabachnick and Fidell, 2001). Outliers may or may not be influential, in this regard; influential means that removal of the outlier could cause substantial changes in the overall estimation of a specific analysis (Bowerman and O'Connell, 1997). There is an extensive debate on what to do with outliers and whether to remove them or not. Hair et al. (1998) strongly suggests that outliers should be retained unless it is proven that they are not representative of the entire population. One means of accommodating outliers is through the use of transformations (Osborne, 2002). By using transformations, extreme scores can be kept in the data set, and the relative ranking of scores remains, yet the skew and error variance present in the variable(s) can be reduced (Hamilton, 1992).

In the AMOS program, the Mahalanobis distance can also be identified. The Mahalanobis distance was measured for each construct through AMOS and then compared with a critical Chi-square (x^2) value with the degrees of freedom equal to the number of independent variables and a probability of $p<.001$, as suggested by Hair et al. (1998) and Tabachnick and Fidell (2001). This measure was employed in this study to detect the occurrence of multivariate outliers from the variables utilised for SEM (see Appendix 7.1).

The SEM result shows that there were a few outlier cases; however, it was decided that all the cases should be retained. In fact, upon inspection of the extreme cases, it was found that the outliers did not stem from participant response errors or data recording errors (West et al., 1995). Therefore, it was considered that a few respondents might genuinely have different opinions, indicated by extreme scores compared to the majority of the sample. Besides, they certainly belonged to the targeted population. This was the rationale of the survey administration approach employed by this study where only qualified respondents from the screening questions were accepted as part of the sample. Thus, the scores that were regarded as 'extreme' did not severely distort the SEM analysis. As stated by Kline (1998), the presence of a few outliers within a large sample size should be of small concern. This was in line with Hair et al. (1998, p.66), who posit that, "*as outliers are deleted, the analyst is running risk of improving the multivariate analysis but limiting its generalisability*".

Normality

As discussed in Chapter 6, normality is viewed as the most fundamental assumption in multivariate analysis (Hair et al., 1998). Similar to outliers, it applies at both univariate and multivariate levels. Univariate normality concerns the distribution of the individual variables (see Section 6.5.9) and multivariate normality involves a combination of two or more variables (see Section 6.7.1).

Normality can be visually assessed by looking at a histogram of frequencies, or by looking at a normal probability plot output by most computer programs (see Section 6.7.1). Univariate normal distributions take the form of a symmetric bell-shaped curve whilst multivariate normal distributions take the form of symmetric three-dimensional bells when the x-axis is the values of a given variable, the y-axis is the count for each value of the x variable, and the z-axis is the values of any other variable under consideration. In the case of normal distribution, the line representing the actual data distribution will closely follow the diagonal lines (Hair et al., 1998; Kline, 1998).

Besides the utilisation of the probability plot, skewness and kurtosis to inspect for normality, statistical tests such as the calculated z value of ±2.58, which exceeds the critical value at the .01 probability level and the critical value of ±1.96 at a .05 error level, could also be used to imply normality (Hair et al., 1998). Alternatively, datasets with absolute values of univariate skew index greater than 3.0 are regarded as 'extreme' (Hu et al., 1992; West et al., 1998) and a conservative estimation of univariate kurtosis index greater than 10 may suggest a problem, whereas values greater than 20.0 are considered 'extremely' problematic (West et al., 1995; Kline, 1998).

The detection of variables' departure from normality is critical, particularly as most SEM estimation requires that the data be of multivariate normal distribution (Hair et al., 1998; Bryne, 2001). In general, violation of this assumption inflates x^2, but under certain circumstances, may deflate it. The use of ordinal or dichotomous measurement, for example, is a cause of violation of multivariate normality. This is because the estimation procedures that are widely used in SEM programmes typically assume that dependent and mediating variables are normally distributed for continuous variables (Kline, 1998).

Kline (1998) suggests that under conditions of severe non-normality of data, SEM parameter estimates are still fairly accurate but the corresponding significance coefficients are too high. x^2 values, for instance, are inflated. The inflated x^2 could lead researchers to think their models were more in need of modification than they actually were. As a result, the overall x^2 fit statistic for the model as a whole is biased toward Type I error (rejecting a model which should not be rejected). The same bias also occurs for other indexes of fit beside the x^2 model. Violation of multivariate normality also tends to underestimate standard errors moderately to severely.

In this study, the AMOS programme was employed to detect normality at both univariate and multivariate levels. Based on the thresholds suggested above, none of the variables included in the proposed conceptual model was regarded as non-normally distributed. Multivariate normality was examined by standardised residual; z-scores below 2.58 indicate that multivariate normality exists (Diamantopoulos, 1994). Upon inspection of all the variables used in the validated measurement models, mostly z-scores were less than 2.58; thus, overall multivariate normality could be assumed (see Appendix 7.2). The skewness (< 3.0) and kurtosis (< 10.0) statistics for all the constructs demonstrated that they were within the acceptable range. Based on the above results, there was no need for transformation of non-normal distributed variables, as this would have introduced additional problems by altering the meanings of actual responses (De Wulf, 1999).

7.1.2   Item and Scale Purification

Before analysis could proceed further, it was necessary to purify the multiple item measurement scales. In Chapter 6 (see Section 6.6), individual item analysis was computed by item-total correlations, inter-item correlations and factor structure; this was established in exploratory factor analysis (EFA). However, the item-total correlation, inter-item correlations and EFA procedures could not ensure unidimensionality of measures, which is viewed as an important requirement of valid measurement, according to Gerbing and Anderson (1988). These researchers also strongly recommend that a more rigorous statistical procedure should be employed to refine and confirm the factor structure generated from the EFA. Since the EFA procedure and results have been discussed at length in the previous chapter (see Chapter 5 and 6), this section will only describe the steps involved in validating the purified scales using Confirmatory Factor Analysis.

7.1.3   Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a procedure of the SEM family tree (Kline, 1998) and plays an important role in the modelling process. CFA seeks to determine whether the number of factors and the loadings of observed variables on them conform to what is expected on the basis of pre-established theory. CFA focuses on the extent to which the observed variables (also known as indicators) are linked to their underlying latent factors (also known as constructs). Hence, the strengths of the regression structure paths from the factor to the observed variables (i.e. the factor loadings) are of major interest. Along these lines, CFA allows identification and clustering of observed variables in a pre-specified, theory-driven hypothesized model to evaluate the extent to which a particular collected data set confirms what is theoretically believed to be its underlying constructs (Mueller, 1996). In brief, CFA models could (i) assess the role of measurement error in the model (ii) validate a multi-factorial model, (iii) determine group effects on the factors and other capability of typical factor analysis.

Since CFA is performed on the basis of the premise that the observed variables are not perfect indicators of the underlying constructs, the measurement model was tested in two stages. Firstly, CFA was conducted separately on each construct measure which is incorporated in the specific measurement model to assess unidimensionality in terms of the parameter estimates, the statistical significance of the parameter estimates and overall fit (Byrne, 2001). In this stage, based on the results, problematic or poorly fitting items were identified and it was decided whether to retain or delete them. Secondly, CFA was performed on the overall model, which was comprised of several purified construct measures derived from the first

step. Then, all significant results from the measurement model were reported and discussed.

7.1.4 Convergent Validity

In Chapters 5 and 6, construct validity was divided into two sub-categories: convergent validity and discriminant validity (see Section 5.5.4 and Section 6.6.2). Convergent validity refers to the principle that the indicators for a given construct should be at least moderately correlated among themselves. Anderson and Gerbing (1988) suggest that parameter estimates should be high in value and t-values should be statistically significant. In the AMOS programme, t-values are reported as critical ratios. The widely accepted cut-off value for standardised loadings is when t-values are greater than ±1.96 or ±2.58 at .05 or .01 levels respectively (Anderson and Gerbing, 1988). In CFA, if the factor loading is significantly large as compared to its standard errors, this implies that the indicator has adequately captured the underlying construct (Koufteros, 1999). A standardised loading of .6 or greater was suggested by Bagozzi and Yi (1988).

The measures in the resulting measurement models conducted in the following sections (see Table 7.1 to 7.9) show acceptable convergent validity. This was evidenced by most items' standardised loading at above .60 with each item being significantly related to its underlying factor, and the t-values were statistically significant (above ±1.96).

7.1.5 Discriminant Validity

Discriminant validity implied the extent to which a given construct differs from other constructs (Barclay et al., 1995). It measures the degree of uniqueness of a construct from one to another. Following the discussion of the initial discriminant validity results in Chapter 6, this chapter validates the results using the SEM technique. The steps taken to confirm the discriminant validity of the CFA models in SEM were as follows; firstly, based on Churchill's (1995) suggestion, the correlation index among factors was examined; low to moderate correlations implied that discriminant validity was attained. Secondly, discriminant validity was also assessed using the χ^2 difference test between the constrained (fixed at 1.0) and unconstrained models. Discriminant validity is achieved when the unconstrained model has a significantly lower χ^2 value, indicating that the traits are not perfectly correlated (Jöreskog, 1971a; Anderson and Narus, 1984); hence, discriminant validity can be supported (Anderson and Gerbing, 1988). Thirdly, discriminant validity was measured by comparing the AVE with squared correlations among latent constructs: an AVE that is greater than the squared correlation indicates that discriminant validity is attained (Fornell

and Larcker, 1981). Overall, the results of the CFA models indicated that discriminant validity had been attained (see Table 7.1 to 7.9).

7.1.6　　Unidimensionality

Unidimensionality suggests the existence of one construct underlying a set of items (Steenkamp and van Trijip, 1991). Scale items are unidimensional if they satisfy two conditions (Hunter and Gerbing, 1982; Anderson and Gerbing, 1988). First, the items should hang together, in the sense that they measure a common construct or dimension; this property is called internal consistency. Second, no item should tap more than one construct; this property is called external consistency. Hence, convergent validity explains the unidimensionality of scales.

There are several methods of assessing unidimensionality, with varying meanings of and stringency for testing. Some traditional techniques, such as Cronbach's Alpha, item-to-total correlation and exploratory factor analysis, can be employed to assess unidimensionality. These techniques and their results were presented in Chapter 6 (see Section 6.6.1 and Section 6.6.2). Nevertheless, many researchers argue that although these techniques are suitable for measuring reliability, they cannot truly measure unidimensionality (e.g. Gerbing and Anderson, 1988; Kline 1998). A better way is to perform CFA of a multiple-indicator measurement model (Gerbing and Anderson, 1988) and assess unidimensionality by goodness-of-fit indices along with other diagnostic tools such as standardised residuals and modification indices. In the present study, a variety of fit indices have been used, such as GFI, CFI, TLI, RMR and RMSEA. These fit indices have been presented in Chapter 5 (see Section 5.6.6 & Table 5.9). The overall fit of the hypothesised model can also be tested by using the Maximum Likelihood (ML) x^2 statistics. However, x^2 is sensitive to sample sizes (i.e. the probability of model rejection increases with increasing sample size), and hence adjusted x^2 (x^2/df; where df=degree-of-freedom) is suggested as a better fit metric (Bentler and Bonett, 1980). It is recommended that this metric should not exceed 5 for models with good fit. The results for unidimensionality are presented in Tables 7.1 to 7.9.

7.1.7　　Reliability

Reliability refers to the accuracy, consistency, stability over time and reproducibility of a measurement instrument (Kerlinger, 1980). Reliability is more easily measured than validity (Churchill, 1995) and traditionally can be examined by many statistical methods such as the split-half technique, Cronbach Alpha and the test-retest approach (DeVellis, 1991; Gable and Wolf, 1993; Zikmund, 1997). The assessment of construct reliability has been demonstrated in the previous chapter based on a Cronbach Alpha threshold value of .70 (Nunnally, 1978) (see Section 6.6). However, Cronbach Alpha is inflated on a

measuring scale that has a large number of items and assumes that all the measured items have equal reliabilities. Gerbing and Anderson (1988) suggest that the CFA approach is suitable for more models, as it specifies the hypothesised causal relationships among the latent variables (Byrne, 1998, Kline 1998; Koufteros, 1999).

As the AMOS program has the ability to run a variety of scale reliability estimates, the suggestion by Bagozzi and Yi (1988) was taken in assessing model reliability, which includes: (1) individual item reliability, (2) a composite reliability measure of a latent construct and (3) average variance extracted. Individual item reliability was computed through AMOS, and is labelled as squared multiple correlations (R^2) in the AMOS output. The R^2 values of the observed items were used as estimations for each individual observed item. In this regard, R^2 values of above .50 provide evidence of acceptable reliability (Bollen, 1989; Steenkamp and van Trijp, 1991).

Composite reliability was calculated using the formula presented earlier (see Chapter 5, Section 5.5.3) for assessing the reliability of a principle measure of each construct in the measurement model (Fornell and Larcker, 1981). The reliability extracted for a latent construct was assessed separately for each multiple indicator construct in the model through AMOS estimating procedures (Bollen, 1989; Muller, 1996; Hair et al., 1998). Highly reliable constructs are those in which indicators are highly inter-correlated, which indicates that they are all measuring the same latent construct. Generally, the cut-off point for composite construct reliability is .70 (Gable and Wolf, 1993; Hair et al., 1998). However, there is no definite acceptable threshold; .80 was suggested by Koufteros (1999) whilst Bagozzi and Yi (1988) suggest that values greater than .60 are desirable.

The construct reliability of the model was also evaluated by estimating the average variance extracted (AVE), which reflects the overall variance captured by the latent construct. A higher AVE explains that the indicators are truly representative of the latent construct, and is recommended to exceed .50 (Hair et al., 1998). Fornell and Larcker (1981) state that if AVE is less than .50, the validity of the individual items and the construct is questionable. The AVE equation has been presented in an earlier chapter (see Chapter 5, Section 5.5.4 and Table 7.8).

7.2 Measurement Model Evaluation

As mentioned earlier, the measurement model specifies how the latent variables or the hypothetical constructs are measured in terms of the observed variables. The main purpose of a measurement model in SEM is to describe how well the observed indicators serve as a measurement instrument for the latent variables. The EFA results reported in

Chapter 6 (see Table 6.20) were used as the starting point for specifying all the measurement models. The measurement models, which consist of 8 constructs - Perceived Usefulness, Perceived Ease-of-use, Perceived Risk, Trust, Consumer Involvement, Consumer Innovativeness, Opinion Leadership, and Adoption - were examined and tested. Subsequently, the CFA results of each model are evaluated and presented in the next section.

7.2.1   CFA for Perceived Usefulness

Firstly, the measurement model for Perceived Usefulness (PU), which was comprised of 7 original indicators, was tested. However, as discussed in Chapter 6 (see Table 6.20) concerning reliability and validity, item 'Useful 1' was deleted, as it did not contribute to the scale reliability. Thus, this item was not included in the CFA, as it may not be a reliable measure of PU. This was a counterpart to the CFA process, which focuses much attention on standard error, squared multiple correlations (R^2) and standardized loadings for each individual item. The same procedures are applied for all CFA models presented later.

Table 7.1 exhibits the results of the CFA for PU measures. The CFA results for each measure are described with regard to fit indices, standardised loading and t-value (known as critical ratio in the AMOS output). The CFA results demonstrate that all the t-values associated with the individual items were greater than ±1.96, hence achieving the threshold level of convergent validity (Anderson and Gerbing, 1988). As displayed in the 'Initial' column of Table 7.1, all the fit statistics implied an adequate fit to the data, with the notable exception of AGFI (<.90) and RMSEA values, which were above the acceptable cut point (.05-.08) and did not achieve adequate levels. In view of these results, additional analysis was employed to detect non-fitting items.

Upon inspection of the results, two indicators, 'Useful 4' and 'Useful 6', were deleted, because they had relatively lower t-values, higher standard errors and low explained variances as indicators of the particular constructs. According to Byrne (1998), the t-value, which represents the parameter estimate divided by its standard error, should be greater than (+1.96) at the .05 significant level to be an important indicator for the associated construct. The squared multiple correlations, which examine the extent to which the measurement model adequately represents the observed indicators, should be high, ranging from .00 to 1.00. These values are also used to estimate the indicator reliability, which explains the extent to which an item adequately measures its associated underlying construct (Bollen, 1989; Mueller, 1996).

Although the 'Useful 2' item was also low on the square multiple correlation estimates, it was retained because it was considered as an important trait in PU; therefore, the content validity was observed and re-tested. This final set of items was used as a composite measure in the subsequent analyses pertaining to the hypotheses testing.

Table 7.1:   CFA Results for Perceived Usefulness

Construct and Measures		Standardised Loading	t-values
USEFUL 2	Internet shopping for travel services enables me to save my time	.615	10.673
USEFUL 3	Shopping for travel services via the internet is more convenient than visiting travel agent outlets	.799	14.459
USEFUL 4	Internet shopping makes it possible to shop for travel services at my convenience (anytime, anywhere)*#	.794	n/a
USEFUL 5	Internet shopping enables me to buy travel services at special rates/ offers	.663	11.627
USEFUL 6	Using the internet to shop for travel services can increase my shopping effectiveness #	.687	12.115
USEFUL 7	Overall, I find shopping for travel services on the Internet to be useful	.811	14.696
Goodness-of-fit Statistics		Initial	Re-specified
Chi-square (X^2) of estimate model		60.755 (df=9, p=.001)	2.745 (df=2, p=.064)
Root Mean Square Residuals (RMR)		.021	.010
Goodness-of-fit (GFI)		.934	.991
Adjusted Goodness-of-fit Index (AGFI)		.846	.957
Incremental Fit Index (IFI)		.938	.991
Comparative Fit Index (CFI)		.937	.991
Root Mean Square Error of Approximation (RMSEA)		.139	.077

Note: *Fixed parameter; #Item deleted after CFA

After two indicators had been deleted, the CFA with 4 indicators was re-estimated to test whether or not the collected data fit the modified model. The results after the elimination indicate a good fit, as reported in the 're-specified' column of Table 7. 1. The re-specified model results in a X^2 of 2.745 with two degrees of freedom that is not significant at a level of .05 (p=.064). The probability value associated with the X^2 represents the likelihood of obtaining a X^2 value that exceeds the X^2 value when a null hypothesis is true. All other fit indices also demonstrated that the data successfully fit the model with GFI=.991, RMR=.01, AGFI=.957, IFI=.991, CFI=.991, and the RMSEA value of .077 was within the accepted range (.05 – .08).

Additionally, the standardized loadings demonstrated comparatively high loadings, ranging from .59 to .80, which indicates the importance of the observed variables as indicators of the PU construct. The squared multiple correlation (R^2), which is used to examine the extent to which the measurement model adequately represents the observed indicators (Byrne, 1998; Kline, 1998), shows that the R^2 values ranged between .35 and .65. These coefficient scores also serve as indicators of reliability (Bollen, 1989).

Further, the reliability of PU was assessed by calculating the composite reliability and average extracted variance (AVE) values (see Table 7.8). The formula used was described in an earlier chapter (see Section 5.5.4). The composite reliability of the PU measurement model was .81, which exceeded the recommended threshold level of .70 (Hair et al., 1998, p. 642). Then, the AVE measure was also calculated to represent the overall amount of variance in the indicators accounted for by the latent construct. The AVE of the construct of PU revealed a value of .51, which slightly exceeded the acceptable threshold guideline level of .50 (Hair et al., 1998, p. 653).

In conclusion, the PU construct, which was retained with four observed indicators, exhibited satisfactory results with regard to the fit indices, unidimensionality, convergent validity and reliability, as discussed above. Therefore, it has adequate measurement properties and is qualified to proceed to the second stage of the analytical process, which is the structural model evaluation.

7.2.2   CFA for Perceived Ease-of-use

As the remaining CFA models are similar to the PU model, it should be noted that the indices are described only briefly.   As shown in Table 7.2, the Perceived ease-of-use (PEU) measurement model retained only three indicators after EFA (see Chapter 6, Table 6.18); hence it is regarded as a 'just identified' or 'saturated' model (Byrne, 2001). This means that the model-fit was perfect, with the number of equations being equal to the number of estimated coefficients, thus the model has zero degrees-of-freedom and its probability level cannot be computed (Bearden et al., 1982; Hair et al., 1998; Arbuckle and Wothke, 1999). This PEU model will be re-estimated in the overall CFA model (see Section 7.2.8). Thus the CFA results in Table 7.2 show the $(x^2=.00$, df=0, p=1.00). The perfect fit indices indicated that the measurement model produced a satisfactory result of a well-fitting model. As such, only a summary of the factor loadings is discussed for this construct.

Table 7.2: CFA Results for Perceived Ease-of-use

Construct and Measures		Standardised Loading	t-values
EASE 2	It is easy to deal with instructions & menus given on websites while shopping for travel services*	.761	n/a
EASE 3	It is easy for me to become skilful at using the Internet to shop for travel services	.843	12.468
EASE 4	I find it easy to search for travel information via the websites I use	.770	12.228
Goodness-of-Fit statistics		The model is saturated and the fit is perfect.	
Chi-square (X^2) of estimate model		0 (df=0, p=1.00)	
Root Mean Square Residuals (RMR)		.000	
Goodness-of-fit (GFI)		1.000	
Incremental Fit Index (IFI)		1.000	
Comparative Fit Index (CFI)		1.000	
Root Mean Square Error of Approximation (RMSEA)		.00	

Note: *Fixed parameter

In terms of other coefficient scores, the t-values were significant at a level of .001; the values of the standardized loadings were comparatively high, between .76 and .84. The squared multiple correlations ranged from .58 to .71. In terms of construct reliability, the value of .86 exceeded the recommended level of .70, which means that these three specified indicators representing the construct were sufficient (see Table 7.8). Further, the AVE value of .63 was higher than the recommended level of .50. **This implies that more than half of the estimated variance for the specified indicators for PEU was adequately accounted for by the construct.**

7.2.3   CFA for Perceived Risk

Similar to PEU, the measurement model for Perceived Risk (PR) was also comprised of three observable indicators, thus it was saturated or 'just identified' and the fit indices were perfect (Byrne, 2001). The degrees of freedom were zero and the probability level cannot be calculated. However, this construct will be re-identified in the overall CFA model (see Section 7.2.8). As such, only a summary of factor loadings is examined for this construct.

Table 7.3 depicts that all indicators falling on its posited underlying factor were statistically significant; all t-values were significantly greater than (± 1.96) at .01 level. Remarkably, all standardised loadings were greater than .6, therefore providing some evidence of convergent validity (Anderson and Gerbing, 1988). As for the assessment of reliability and validity (see Table 7.8), the results indicate that R^2 values for all indicators were between .43 and .69, with two indicators less than .50. **This implies that these indicators did not**

satisfy the acceptable threshold of individual item reliability (Bollen 1989; Steenkamp and van Trijp, 1991). However, the composite validity of the model was .76, exceeding the suggested score of .60 as recommended by Bagozzi and Yi (1988). In addition, the reliability evaluation based on an AVE of .52 was slightly greater than the suggested value of .50 (Fornell and Larcker, 1981). Accordingly, the problematic indicators were re-examined in subsequent analysis.

Table 7.3:   CFA results for Perceived Risk

Construct and Measures		Standardised Loading	t-values
RISK 5	Using the Internet to shop for travel services would lead to a loss of privacy	.656	8.836
RISK 6	I am uncomfortable giving my credit card number when booking for travel services on the Internet*	.660	n/a
RISK 7	Overall, it is risky to shop for travel services via the Internet	.828	8.553
Goodness-of-Fit statistics		The model is saturated and the fit is perfect.	
Chi-square (X^2) of estimate model		0 (df=0, p=1.00)	
Root Mean Square Residuals (RMR)		.000	
Goodness-of-fit (GFI)		1.000	
Incremental Fit Index (IFI)		1.000	
Comparative Fit Index (CFI)		1.000	
Root Mean Square Error of Approximation (RMSEA)		.00	

Note: *Fixed parameter

7.2.4   CFA for Trust

The initial Trust measurement scale was comprised of five observed indicators. However, after the EFA (see Chapter 6, Table 6.18), 'Trust 5' was deleted, as it did not contribute to a high scale reliability for the overall trust construct (Cronbach's alpha=.85 without this item).

Table 7.4:   CFA Results for Trust

Construct and Measures		Standardised Loading	t-values
TRUST 1	I trust the Internet reservation/ booking systems when shopping for travel services	.861	17.475
TRUST 2	I trust the Internet payment/ transaction systems when shopping for travel services*	.881	n/a
TRUST 3	I trust that web travel retailers have sufficient expertise to perform business on the Internet	.757	15.012
TRUST 4	I trust that web travel retailers keep my best interests in mind#	.594	10.867
Goodness-of-Fit statistics		**Initial**	**Re-specified**
Chi-square (X^2) of estimate model		51.639 (df=2, p=.00)	0 (df=0,p=1.0)
Root Mean Square Residuals (RMR)		.031	.000
Goodness-of-fit (GFI)		.920	1.000
Adjusted Goodness-of-fit Index (AGFI)		.598	n/a
Incremental Fit Index (IFI)		.920	1.000
Comparative Fit Index (CFI)		.919	1.000
Root Mean Square Error of Approximation (RMSEA)		.289	.00

Note: *Fixed parameter; #Item deleted after CFA

The initial CFA result of the trust model was not acceptable for a well-fitting model. The X^2 value of 51.64 with two degrees of freedom was statistically significant (p<.0001), suggesting that the hypothesized model was not entirely adequate. Other indices that provide evidence of an unacceptable model included an AGFI score of .598 (lower than the cut-off point of .90) and an RMSEA score of .289 (above the acceptable level of .08). Accordingly, it can be argued that the proposed hypothesized model of trust represents an unlikely condition in relation to the current specified model and should be rejected and re-specified in terms of estimating the parameters.

Consequently, item 'Trust 4' was dropped, due to low squared multiple correlations (.35), and low completely standardized loadings (.59). Then the CFA was run with the re-specified model with three indicators. The second estimation of the 're-specified' model in Table 7.4 represented a better fit compared to the 'initial' model, and indicated a well fitting model. The model revealed a saturated model: the X^2 value of .00 (df=0, p=1.0) and other goodness-of fit indices also supported the fact that the hypothesized model fits the collected sample data fairly well (GFI=1.00, RMR=.000, IFI=1.00, and CFI=1.00). All of the t-values associated with each of the loadings exceeded the critical values for the significant level of .001 (1.96). Furthermore, the standardized loadings ranged from .72 to .90, and the R^2 were values between .52 and .82, which indicate high reliability of the model.

The composite reliability and the AVE of this construct were estimated to assess whether those three specified observed indicators were sufficient to represent Trust (Table 7.8). The results revealed that the composite reliability value was .87 and the AVE was .70, which exceeded the recommended levels of .70 and .50, respectively. **Accordingly, it can be said that all variables were significantly related to the Trust construct. The posited relationships among the indicators and constructs were verified.**

7.2.5 CFA for Consumer Involvement

After the EFA elimination (see Chapter 6, Table 6.18), the measurement scale of Consumer Involvement consisted of 8 items. The initial estimations of the Consumer Involvement measurement model presented unsatisfactory results, indicating a x^2 value of 199.54 with 20 degrees-of-freedom (p<.001) and a RMSEA value of .174 (see Table 7.5). Based on the examination of the standard error, R^2, and standardized factor loadings, those items having lower values of estimated parameters and variances were dropped, including 'Involve 2', 'Involve 3' and 'Involve 4'. Then, CFA was re-estimated to examine whether the model with five observed indicators fit the data.

However, the re-estimated model still was not adequate, showing that the x^2 value was 30.252 with 5 degrees of freedom and the RMSEA was .130, exceeding the cut-off point of .08. In contrast, other indices were somewhat improved (GFI=.96, RMR=.027, AGFI=.88, IFI=.97, and CFI=.97).

Based on the examination of modification indices (MI), which represent misspecified parameters, it was identified that the highest MI value was between Involve 5 and Involve 7. Both items were assessed based on their contributions to the model's fit if they were eliminated; Involve 7 gave a better fit to the model as compared to Involve 5. Thus Involve 5 was deleted and the re-specified model with four indicators was estimated in CFA. The final results of re-specified model of Consumer Involvement are presented in Table 7.5. Overall, the new model shows a much better fit as compared to the previous models, having a x^2 value of 5.157 with 2 degrees-of-freedom (p=.076) and other goodness-of-fit indices (GFI=.99, RMR=.01, AGFI=.96, IFI=.99, CFI=.99 and RMSEA=.73).

Table 7.5:   CFA Results for Consumer Involvement

Construct and Measures		Standardised Loading	t-values
INVOLVE2	Boring – Interesting #	.711	14.089
INVOLVE3	Irrelevant - Relevant #	.770	15.820
INVOLVE4	Unexciting – Exciting #	.760	15.496
INVOLVE5	Unappealing – Appealing #	.861	18.887
INVOLVE6	Worthless – Valuable*	.842	n/a
INVOLVE7	Uninvolving - Involving	.833	17.890
INVOLVE8	Not Needed - Needed	.813	17.204
INVOLVE9	Foolish - Wise	.815	17.258
Goodness-of-Fit statistics		Initial	Re-specified
Chi-square (X^2) of estimate model		199.54 (df=20, p= .00)	5.157 (df=2, p= .076)
Root Mean Square Residuals (RMR)		.057	.013
Goodness-of-fit (GFI)		.834	.992
Adjusted Goodness-of-fit Index (AGFI)		.700	.959
Incremental Fit Index (IFI)		.903	.996
Comparative Fit Index (CFI)		.903	.996
Root Mean Square Error of Approximation (RMSEA)		.174	.073

Note: *Fixed parameter; #Item deleted after CFA

The t-values associated with each of the loadings exceeded the critical values for a significant level of .05 (1.96) and a significant level of .001 (2.576). This means that all variables were significantly related to the construct of consumer involvement, verifying the posited relationships among the indicators and constructs. The standardized loadings ranged from .79 to .88. 'Involve 6' related to 'value of Internet shopping' was found to be the most important of the four observed indicators.

Having a high-level composite reliability of .91, which exceeded the recommended level of .70, the specified four indicators for this construct were strong representatives of Consumer Involvement (see Table 7.8).   Furthermore, the AVE measure of .71 was substantially higher than the recommended level of .50. **This therefore suggests that there is valid and substantial support for the Consumer Involvement model with four observed indicators.**

7.2.6 CFA for Consumer Innovativeness and Opinion Leadership

The results of EFA as reported in Chapter 6 (see Table 6.18) were used to specify this measurement model. The measurement model was developed from two congeneric measures, Opinion Leadership and Consumer Innovativeness. This is based on the opinion leadership theory, which argues that opinion leaders will be more likely to be the consumers who first adopt an innovation (Rogers, 1995). As a result, the highest number of opinion leaders is found among the early adopters, who themselves do not rely on well-established references in making their buying decisions, preferring instead to rely on their own intuition and vision (Moore, 1999). Opinion leaders and innovators seem to share similar cognitive behaviour towards adopting Internet shopping (also known as 'e-shopping').

Table 7.6: CFA Results for Opinion Leadership

Construct and Measures		Standardised Loading	t-values
INNOV 1	In general, I am among the first in my circle of friends to buy travel services from the Internet*	.814	n/a
INNOV 2	Compared to my friends, I shop for travel services via the Internet more often	.913	12.416
OPINION 2	In a discussion of Internet shopping for travel services, I like to convince my friends of my ideas	.696	11.923
OPINION 3	Amongst my friends, I am often used as a source of advice about Internet shopping for travel services*	.867	n/a
OPINION 4	In the past 6 months, I have told a number of people about Internet shopping for travel services	.739	12.623
Goodness-of-Fit statistics			
	Chi-square (X^2) of estimate model	15.121 (df=4, p= .004)	
	Root Mean Square Residuals (RMR)	.017	
	Goodness-of-fit (GFI)	.980	
	Adjusted Goodness-of-fit Index (AGFI)	.927	
	Incremental Fit Index (IFI)	.983	
	Comparative Fit Index (CFI)	.983	
	Root Mean Square Error of Approximation (RMSEA)	.09	

Note: *Fixed parameter

As shown in Table 7.6, the model generally demonstrates an acceptable fit to the data. The X^2 statistics for all congeneric measures were significant at p>.001, thereby suggesting that the fit of the data to the hypothesised model was satisfactory (see Byrne, 2001). Besides, all the standardized loadings ranged from .70 to .91, and the R^2 values were between .48 and .83, indicating acceptable reliability of the model. The goodness-of-fit statistics used for the model evaluation suggested that the model achieved a good fit to the observed

data, with the exception of RMSEA, which was slightly above the acceptable cut-off point (.05 −.08). Notably, the entire t-value associated with each item in the congeneric measures was statistically significant (greater than ±1.96) at the .001 level of significance; therefore, the criterion for convergent validity has been established (Anderson and Gerbing, 1988).

The reliability and AVE of the constructs were estimated to assess whether those five specified observed indicators were sufficient to represent the factors. The results revealed that the composite reliability of Consumer Innovativeness and Opinion Leadership was .81 and .86 respectively, while the AVE values were .59 and .75 respectively (see Table 7.8). The overall model composite reliability was .90 and the AVE value was .67. In both cases (individual and overall construct) the composite reliability and AVE value exceeded the recommended levels of .70 and .50, respectively. **In summary, the goodness-of-fit indices and other estimated parameters and variances substantially support that the hypothesized model with four observed indicators fit the data fairly well. Therefore, the first step of the unidimensionality evaluation for the constructs measure was adequately supported.**

7.2.7   CFA for Internet Shopping Adoption

The Internet shopping adoption scale, which consists of six items after the reliability test and EFA (see Table 6.18), was used to build this model. The CFA results presented in Table 7.7 shows that all the standardised loadings for each of the indicators of the abovementioned constructs were high and statistically significant at p<.05 (greater than ±1.96), thereby demonstrating convergent validity (Gerbing and Anderson, 1988). The fit indices indicated that the measurement model for adoption was supported by the data, with the exception that the AGFI value was less than the acceptable level (<.90). In terms of x^2 value, the hypothesized model did not produce satisfactory results, with a value of 41.102 with 9 degrees of freedom (p<.001); furthermore, the RMSEA value was slightly above the accepted range (.05-.08). In order to improve the overall model fit, two poorly fitting items, 'Adopt 2' and 'Adopt 3', were identified and deleted, because they had relatively lower t-values, higher standard error and low explained variances.

Even though the 'Adopt 1' item was also low on the square multiple correlation estimates, it was retained because it was considered as an important question in measuring Internet shoppers' adoption behaviour; therefore, the content validity was observed. This final set of items was used as a composite measure in the subsequent analyses pertaining to the hypothesis testing.

Table 7.7:   CFA Results for Adoption

Construct and Measures		Standardised Loading	t-values
ADOPT 1	I use the Internet every time I need to purchase travel services	.660	12.408
ADOPT 2	I want to continue using Internet shopping for travel services in the future#	.772	15.404
ADOPT 3	I expect my usage of Internet shopping for travel services to increase in the future#	.620	11.457
ADOPT 4	I consider myself as a frequent Internet shopper for travel services	.719	13.929
ADOPT 5	Overall, I feel I have adopted Internet shopping for travel services*	.869	n/a
ADOPT 6	Overall, I am satisfied when shopping for travel services via the Internet	.742	14.569
Goodness-of-Fit statistics		**Initial**	**Re-specified**
Chi-square (X^2) of estimate model		41.012 (df=9, p= .00)	1.374 (df=2, p= .503)
Root Mean Square Residuals (RMR)		.022	.009
Goodness-of-fit (GFI)		.956	.998
Adjusted Goodness-of-fit Index (AGFI)		.897	.989
Incremental Fit Index (IFI)		.961	1.00
Comparative Fit Index (CFI)		.961	1.00
	Root Mean Square Error of Approximation (RMSEA)	.109	.000

*Note: *Fixed parameter; #Item deleted after CFA*

Then, CFA was re-estimated to assess whether the re-specified model with four observed indicators fit the data. Overall, the new model shows a great improvement and fits the collected data very well, having a X^2 value of 1.37 with 2 degrees –of freedom (p=.50), and the other goodness-of-fit indices were almost perfect (GFI=1.00, RMR=.01, AGFI=.99, IFI=1.0, and CFI=1.0).

The t-value associated with each of the loadings exceeded the critical values for significance levels of .05 (1.96) and .0 01 (2.576). This means that all variables were significantly related to the construct of Internet shopping adoption, verifying the posited relationships among the indicators and constructs. The standardized loadings ranged from .63 to .93. Item 'Adopt 5', related to 'Overall, I have adopted Internet Shopping for travel services', was found to be the most important indicator among the observed four indicators.

With a composite reliability of .84, which was above a recommended level of .70, the specified four indicators for this construct were considered sufficient to represent the Adoption of Internet Shopping measure (see Table 7.8). As for the AVE, the construct had a value of .57, somewhat higher than the recommended level of .50.

In conclusion, the evaluation of this measurement model provided evidence of unidimensionality, convergent validity and reliability.

7.2.8   CFA for Overall Constructs

Prior to estimating the overall measurement model, each measurement model was examined separately to investigate whether the collected data fit the specified observed indicators of the construct successfully (see Table 7.1 to 7.7). Based on the results of the goodness-of-fit indices, modification indices, and estimated coefficient scores such as t-values and multiple correlations, the measurement models for each construct were modified and re-specified when required. Consequently, the final measurement model for each construct with the observed indicators was determined on the basis of the statistical and theoretical soundness of the constructs. Thus, each final model represented the best-fitting model to the data in terms of parsimony and substantive meaningfulness.

The path diagram presented in Figure 7.1 illustrates the overall measurement model. In the figure, latent variables are indicated as ellipses whilst observed indicators are presented in rectangles. The path coefficients for the estimated regression weight of observed indicators onto unobserved latent variables are presented above each arrow. These values represent the amount of change in Y, given a standard deviation unit change in X. Besides, the measurement error associated with each observed indicator is presented as small circles (e1 – e26). The values above the ellipses are the estimations of variance, while the figures exhibited on the two-headed arrows between the latent constructs indicate the correlations between the constructs.

Figure 7.1: Measurement Model of Overall Constructs
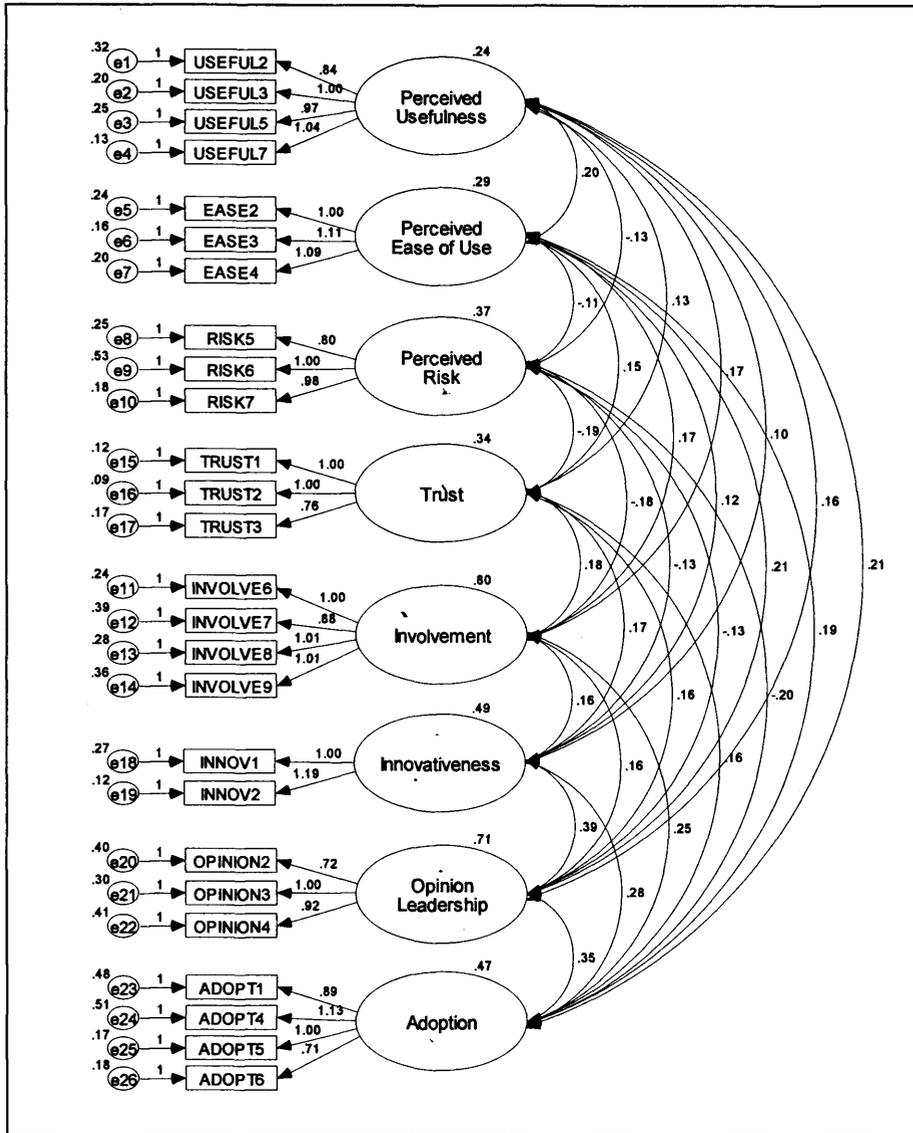
This overall measurement model to be tested consisted of Perceived Usefulness (USEFUL), Perceived Ease-of-use (EASE), Perceived Risk (RISK), Trust (TRUST), Consumer Involvement (INVOLVE), Consumer Innovativeness (INNOV), Opinion Leadership (OPINION) and Adoption (ADOPT). Given these eight constructs, four observed indicators loaded onto USEFUL; three observed indicators loaded onto EASE; three observed indicators loaded onto RISK; three observed indicators loaded onto TRUST; four observed indicators loaded onto INVOLVE; two observed indicators loaded onto INNOV; three observed indicators loaded onto OPINION, and four observed indicators loaded onto ADOPT. These measures were evaluated as a full CFA model and the results are summarised in Table 7.8.

Table 7.8:   CFA Results for Overall Measurement Model

Constructs and Items	Standardised loadings	t-values	Composite Reliability	R²	AVE	Cronbach Alpha
Perceived Usefulness			.81		.51	.80
USEFUL 2#	.591	9.559		.350		
USEFUL 3*	.743	n/a		.552		
USEFUL 5	.691	11.190		.478		
USEFUL 7	.821	13.065		.673		
Perceived Ease-of-use			.86		.63	.83
EASE 2 *	.743	n/a		.553		
EASE 3	.829	13.258		.688		
EASE 4	.799	12.897		.638		
Perceived Risk			.76		.52	.74
RISK 5	.692	9.156		.479		
RISK 6*	.640	n/a		.409		
RISK 7	.812	9.631		.659		
Trust			.87		.70	.87
TRUST 1	.865	18.025		.749		
TRUST 2*	.893	n/a		.798		
TRUST 3#	.735	14.643		.540		
Consumer Involvement			.91		.71	.90
INVOLVE 6*	.878	n/a		.771		
INVOLVE 7	.786	16.607		.617		
INVOLVE 8	.861	19.279		.742		
INVOLVE 9	.831	18.212		.691		
Consumer Innovativeness			.81		.59	.85
INNOV 1*	.804	n/a		.646		
INNOV 2	.924	14.121		.853		
Opinion Leadership			.86		.75	.81
OPINION 2	.690	11.912		.476		
OPINION 3*	.839	n/a		.704		
OPINION 4#	.772	13.351		.596		
Adoption			.84		.57	.82
ADOPT 1	.664	12.212		.441		
ADOPT 4	.737	13.972		.543		
ADOPT 5*	.856	n/a		.733		
ADOPT 6#	.761	14.566		.578		

Note: *Fixed parameter; #Item deleted after CFA

The results of the overall model assessment show that all indicators fell on their posited underlying factors and were statistically significant. All t-values were significantly greater than ±2.58 at .01 level, which clearly demonstrates evidence of convergent validity (Anderson and Gerbing, 1988). Further, the standardized factor loadings were evaluated and resulted in a range between .59 and .92. These standardized loadings were used to determine the relative importance of the observed variables as indicators of the constructs.

The R^2 values for all indicators ranged from .35 to .85. This implies that the reliability of several individual items in this measurement model failed to satisfy the acceptable threshold level of convergent validity (i.e. .50) (Bollen, 1989; Steenkamp and Van Trijp, 1991). Despite this result, all constructs reached composite reliability values greater than .70, which exceeds the suggested value of .60 recommended by Bagozzi and Yi (1988). In addition, reliability evaluation based on AVE satisfied the recommended value of .50 (Fornell and Larcker, 1981). This indicates that the variance captured by the construct is greater, as compared to the variance accounted for due to measurement error (Hair et al., 1998). It is noteworthy that each of the observed variables satisfied Nunnally's (1978) threshold level of acceptable reliability, with Cronbach alpha values greater than .70.

Subsequently, the hypothesized model as a whole was examined by using three types of fit indices: absolute fit indices, incremental fit indices, and parsimonious fit indices (see Chapter 5, Table 5.9). The results of the goodness-of-fit statistics with the calibration sample (n=299) are reported in Table 7.9.

Table 7.9: Goodness-of-Fit Statistics for Overall Constructs

Goodness-of-fit Measures	Initial	Re-specified
Absolute Fit measures		
Chi-square (X^2) of estimate model	542.696 (df=271, p=.000)	304.190 (df=181, p=.000)
Root mean square residual (RMR)	.034	.030
Root mean square error of approximation (RMSEA)	.058	.048
Goodness-of-fit Index (GFI)	.877	.916
Incremental Fit Measures		
Adjusted Goodness-of-fit Index (AGFI)	.841	.882
Normed Fit Index (NFI)	.878	.914
Tucker Lewis Index (TLI)	.921	.952
Parsimonious Fit Measures		
Parsimony Goodness-of-fit Index (PGFI)	.677	.655
Parsimony Normed Fit Index (PNFI)	.732	.716
Comparative Fit Index (CFI)	.934	.963
Incremental Fit Index (IFI)	.935	.963

Table 7.9 shows first, the Absolute Fit Index, which is used to assess how closely the model compares to a perfect fit (Bollen, 1989; Hu and Bentler, 1995; Maruyama, 1998) and is measured by indices such as Chi-square (X^2) of the estimated model, Goodness-of-fit Index (GFI), Root Mean Square Residual (RMR), and Root Mean Square Error of Approximation (RMSEA).

The goodness-of-fit indices indicate that the overall measurement model yielded a moderate fit, which means that the measurement model was not perfectly supported by the data. The NFI, GFI and AGFI indices, which dropped below the acceptable level of .90, suggest that the model could be improved by eliminating a few problematic items. These indices should be close to 1.00 to indicate a good fit model (Hu and Bentler, 1995; Byrne, 1998). The x^2 value of 542.696 with 271 degrees of freedom was statistically significant at p<.001, thereby also signifying that the hypothesized overall measurement model with 8 constructs and 26 indicators needs to be re-specified to reach an acceptable level of fit.

In order to improve the overall model fit, three poorly-fitting items, 'Useful 2','Opinion 4', 'Adopt 6' and 'Trust 3' were identified and deleted, because they had relatively low t-values, higher standard error, low explained variances, and more importantly, they were loading onto more than two other constructs. The evaluation of goodness-of-fit statistics for the re-specified model is also shown in Table 7.9 in the 're-specified' column. The X^2 of the re-estimated model was 304.19, with 181 degrees of freedom (p=.00), while the GFI was .92, which was slightly above the suggested level. The RMR was .03 and the RMSEA was .048. These indices were within recommended levels based on Hu and Bentler (1995), who suggest that a value of less than .05 indicates a good fit, and values greater than .08 indicate reasonable errors of approximation in the population. **The result of the re-specified model indicates that all of the fit indices improved significantly and produced a model that fitted the data acceptably well.**

Secondly, the Incremental Fit Indices were used to evaluate the proportionate improvement in fit by comparing the target model with a more restricted, nested base line model. The result produced an Adjusted Goodness-of-fit Index (AGFI) of .88, a Tucker Lewis index (TLI) of .95, and a normed fit index (NFI) of .91. **These indices signify an acceptable fit model, with the exception of the AGFI value of .88, which was slightly below the recommended level of .90.**

Finally, the Parsimonious Fit Indices provided information for comparison between models of differing complexity and objectives by evaluating the fit of the model versus the number of estimated coefficients needed to achieve that level of fit. The Parsimony Goodness-Of-Fit Index (PGFI) was .65, the Parsimony Normed Fit Index (PNFI) was.72, the Comparative Fit Index (CFI) was .96 and the Incremental Fit Index (IFI) was .96. The values of the CFI ranged from 0 to 1.00. **The higher values of IFI and CFI indicate a better model fit to the data. As both the IFI and CFI values were .96, this suggests that the values were sufficient to confirm a good fit of the model to the data.**

A review of the three types of overall re-specified measurement model revealed that the consistent patterns of values of fit indices supported the fact that the model fit the data fairly well, meaning that the re-specified model was reliable and valid for subsequent analysis. In conclusion, the evaluation of all CFA measurement models in this section has demonstrated that all models and re-specified models have at least a moderately acceptable fit, as well as providing evidence of the unidimensionality, convergent validity and reliability of all models. Therefore, the measurement characteristics are adequate to enter the second stage of SEM analysis, which is the structural modelling.

Part 2

7.3   Structural Model

Structural model specifies the theoretical relationships between or among the constructs (Bollen, 1989; Jöreskog, 1993; Byrne, 1998) as well as identifying whether the construct(s) directly or indirectly influence or change the values of other constructs in the model (Byrne, 1998; Maruyama, 1998). Thus, this section aims to test the hypothetical conceptual model that prescribes relationships between e-shopping adoption and the eight latent constructs as well as the observed variables shown in Figure 7.2. The relevant supporting theories and discussion of the measurement variables associated with the constructs have been discussed in the previous chapters (Chapter 3 and Chapter 4). When the necessary information and requirements of the structural model are derived, the exogenous (independent) and endogenous (dependent) constructs can be defined. The properties of the hypothesized model are as follows: eight constructs, of which three were exogenous (Consumer Innovativeness, Consumer Involvement, Opinion Leadership) and five endogenous (Perceived Usefulness, Perceived Ease-of-use, Perceived Risk, Trust and Adoption).

As illustrated in Figure 7.2 the hypothesised structural components apply the same concept as described in the measurement model section. The latent variables are represented by ellipses, the observed indicators by rectangles, the variance of observed indicators by small circles (e1 to e22), the correlation amongst the constructs by double-headed arrows, and the relationships between the constructs by single-headed arrows. Additionally, residuals (errors) associated with each of the endogenous variables are presented as circles (r1 to r5). Accordingly, the hypothesized structural model of how the constructs are interrelated with each other is defined by the proposed hypotheses (see Section 7.3.1).

Figure 7.2:   Proposed Structural Model and Components
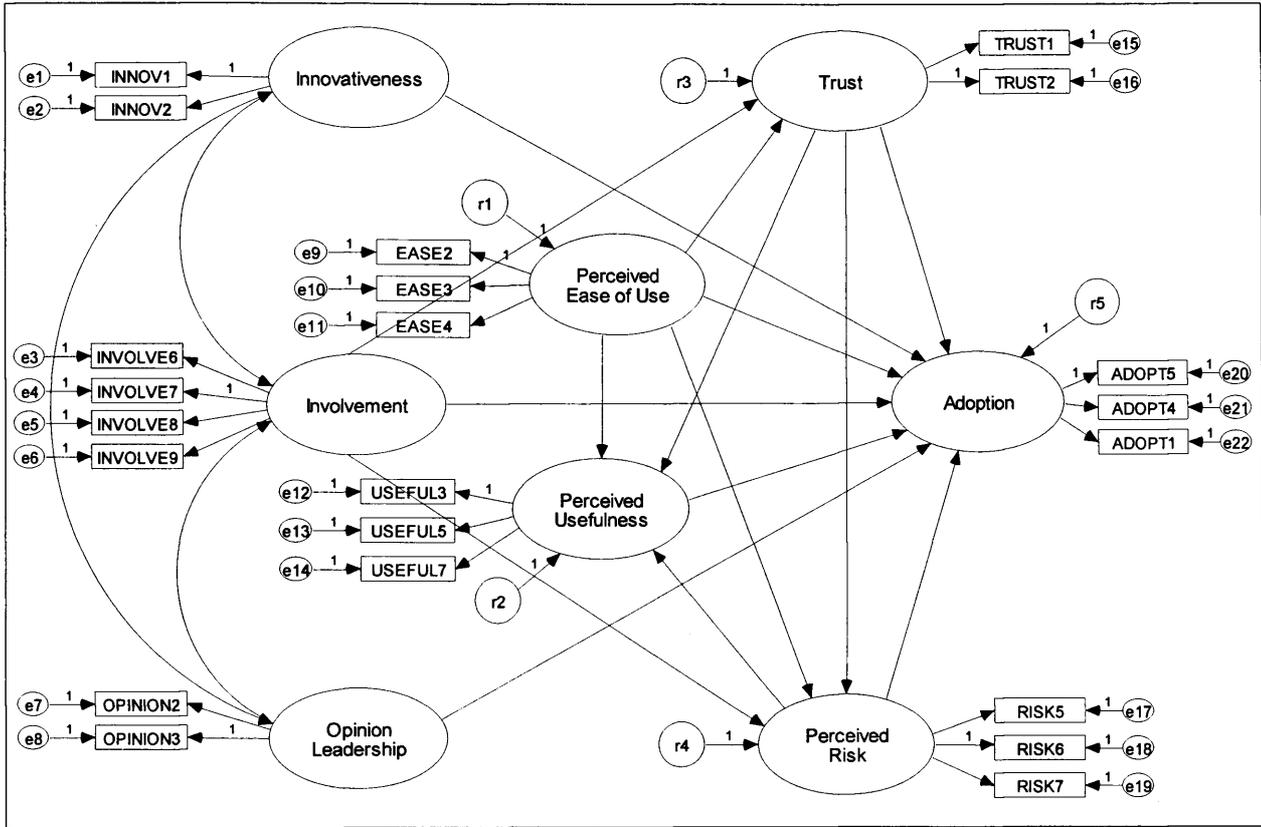
7.3.1   Hypothesis Testing of Proposed Structural Model

As discussed in the previous section, the relationships between the constructs were examined based on t-values associated with path coefficients between the constructs. If an estimated t-value is greater than a certain critical value (p<.05, t-value=1.96) (Mueller, 1996), the null hypothesis that the associated estimated parameter is equal to 0 is rejected. Subsequently, the hypothesised relationship was supported.

This section verifies whether the empirical results of the structural model evaluation support the hypothesised model as postulated in the conceptual framework chapter (see Chapter 4). The simplified model (without the observed indicators) is displayed in Figure 7.3 and the results are presented in Table 7.10 with reference to the standardised estimates, critical ratio (t-value) and significance level.

Figure 7.3: Proposed Structural Model and Hypotheses Paths
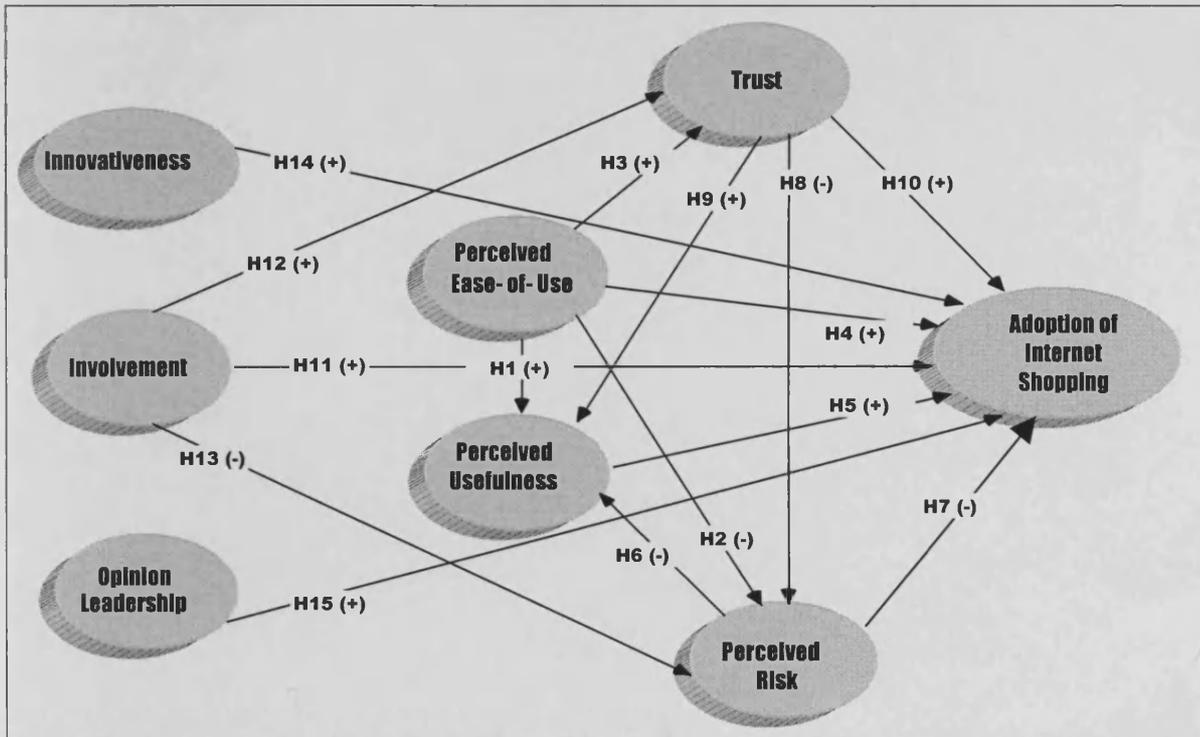
Table 7.10: Proposed Structural Model and Hypotheses Test Results

	Hypotheses and Hypothesised Paths		Standardised Coefficient	t-value	Results
H1:	Perceived Ease-of-use	→ Perceived Usefulness	.635	8.134***	Supported
H2:	Perceived Ease-of-use	→ Perceived Risk	-.117	-1.642#	Rejected
H3:	Perceived Ease-of-use	→ Trust	.343	5.156***	Supported
H4:	Perceived Ease-of-use	→ Adoption	-.038	-.398#	Rejected
H5:	Perceived Usefulness	→ Adoption	.403	3.905***	Supported
H6:	Perceived Risk	→ Perceived Usefulness	-.183	-2.469**	Supported
H7:	Perceived Risk	→ Adoption	-.193	-2.446#	Rejected'
H8:	Trust	→ Perceived Risk	-.429	-5.243***	Supported
H9:	Trust	→ Perceived Usefulness	.065	.915#	Rejected
H10:	Trust	→ Adoption	-.123	-1.714#	Rejected
H11:	Consumer Involvement	→ Adoption	.139	2.307**	Supported
H12:	Consumer Involvement	→ Trust	.246	3.978***	Supported
H13:	Consumer Involvement	→ Perceived Risk	-.170	-2.560**	Supported
H14:	Consumer Innovativeness	→ Adoption	.378	4.443***	Supported
H15:	Opinion Leadership	→ Adoption	.124	1.438#	Rejected

Note: ***p<.001; **p<.01; # insignificant path

Overall, the estimation of the hypothesised model revealed that nine of the hypothesised links were significant whilst six were non-significant. The next section discusses the proposed hypothesis test results, which are structured based on the constructs, namely Perceived Ease-of-use (H1, H2, H3 and H4), Perceived Usefulness (H5), Perceived Risk (H6 and H7), Trust (H8, H9 and H10), Consumer Involvement (H11, H12 and H13), Consumer Innovativeness (H14) and Opinion Leadership (H15).

7.3.2   Hypotheses Testing Results of Proposed Model

Perceived Ease-of-use (H1, H2, H3 and H4)

H1: There is a positive relationship between perceived ease-of-use and the perceived usefulness of travel e-shopping *(Supported)*

The H1 result in Table 7.10 shows that the relationship between perceived ease-of-use and perceived usefulness was positive and significant (t-value=8.134, p<.001). This result implies that if an Internet shopper believes that it is easy to search for travel information, deal with the web interface and make buying decisions online, he or she will be more likely to believe the advantages of e-shopping or its usefulness.

This finding was consistent with the theory that suggests perceived ease-of-use influences perceived usefulness, because, *ceteris paribus*, technologies that are easy to use can be more useful (Davis et al., 1989; Davis, 1989; Venkatesh, 1999; Venkatesh and Davis, 2000). The effects of perceived ease-of-use on perceived usefulness have been proposed and tested by many TAM studies (e.g. Teo et al., 1999; Gefen and Straub, 2000; Venkatesh and Davis, 2000; Moon and Kim, 2001; Pavlou, 2001).

H2: There is a negative relationship between perceived ease-of-use and the perceived risk of travel e-shopping *(Not Supported)*

The relationship proposed in H2 was rejected (t-value= -1.642), which means that there is no relationship between perceived ease-of-use and the perceived risk of travel e-shopping. This finding contradicts previous TAM studies where intuitively, in adopting a new technology such as e-shopping, user perceptions of ease-of-use are likely to affect perceptions of usage risk. Products or services that are perceived as being complex, with steep learning curves, are likely to be thought of as risky to adopt and use. Roselius (1971) suggests that ease-of-use may function as an important risk-reducing factor in an e-services context where usage concerns are more likely to be engendered.

H3: There is a positive relationship between perceived ease-of-use and trust in travel e-shopping *(Supported)*

The result of H3 (t-value=5.156, p<.001) suggests that perceived ease-of-use influences trust in travel e-shopping. The more consumers see e-shopping as uncomplicated and user-friendly, the greater trust they have in travel e-shopping. This result confirmed that trust building in e-shopping is higher if consumers perceive e-shopping to be an easy task. This finding is expected because sufficient evidence has been established by previous studies relating to the TAM and trust relationships (e.g. Hoffman et al., 1999; Yoon, 2002; Gefen et al., 2003a & 2003b; Pavlou, 2003).

H4: There is a positive relationship between perceived ease-of-use and the adoption of travel e-shopping *(Not Supported)*

In H4, the proposed relationship between perceived ease-of-use and adoption of travel e-shopping was not supported (t-value= -.398), which means that the ease-of-use of e-shopping did not lead to the adoption of travel e-shopping. This result was in contrast to Moore and Benbasat's (1991) suggestion where the complexity of web user interface reduces system evaluation and adoption intention. Despite the non-significant relationship, it was found that perceived ease-of-use did influence adoption of e-shopping indirectly through perceived usefulness (see H5). This result is expected due to the respondent characteristics, as they were quite knowledgeable in using the Internet, and therefore, perceived ease-of-use would not necessarily be a significant determining factor for consumers' adoption behaviour. This non-significant result shows the same pattern as found in several prior TAM studies (e.g. Szajna, 1996; Gefen and Keil, 1998, Gefen et al., 2003b).

Perceived Usefulness (H5)

H5: There is a positive relationship between perceived usefulness and the adoption of travel e-shopping *(Supported)*

The result of H5 was supported by the data (t-value=3.905;p<.001). This suggests that perceived usefulness had a positive effect on the adoption of travel e-shopping. Perceived usefulness is crucial in e-shopping, as when shopping online, consumers could search for and compare more products, get more information and lower prices, and thus gain more from the transaction (Hoffman and Novak, 1996; Alba et al., 1997). Furthermore, the likelihood of buying via the Internet increases as consumers' perception of e-shopping convenience increases (Bhatnagar et al., 2000). Since consumers who shop online are more convenience-oriented (Li et al., 1999), they are more likely to buy on the Web compared to those who prefer to experience products and are less likely to buy online. This finding was consistent with Gefen and Straub (2000), who concluded that perceived

usefulness affects the intended adoption of IT related activities, but has mostly failed to do so regarding perceived ease-of-use (see H4).

Perceived Risk (H6 and H7)

H6: There is a negative relationship between perceived risk and the perceived usefulness of travel e-shopping *(Supported)*

In H6, perceived risk was found to significantly (t-value= -2.469, p<.01) influence perceived usefulness of travel e-shopping in a negative direction. Therefore, the hypothesis was supported and hence implies that if Internet shoppers perceive travel e-shopping to be high risk, they would have a lower perception of the usefulness related to this activity. Several empirical studies on perceived risk found strong empirical evidence supporting the hypothesis of an adverse influence of perceived risk on perceived usefulness (Featherman and Pavlou, 2003).

H7: There is a negative relationship between perceived risk and the adoption of travel e-shopping *(Not Supported)*

The result of H7 indicates that the proposed relationship was rejected (t-value=-2.446). This shows that perceived risk was viewed as an obstacle to e-shopping by not influencing the adoption of travel e-shopping. The perceived risks involved in travel e-shopping include Financial Risk; Product Risk; Technology Risk; Privacy Risk and Payment Risk (see Chapter 4). This result was unexpected, as many studies indicate that as the level of perceived risk increases, consumers tend to become more risk-averse (Bettman, 1973; Donthu and Garcia, 1999; Hoffman et al., 1999; Lee et al., 2001), which subsequently affects the decision to shop online. As the use of e-shopping increases, it is likely that some consumers will perceive higher levels of risk than others. Thus, those perceiving lower levels of risk would be more likely to try shopping via the Internet. However, there is also an argument that greater and longer Internet experience and more widespread publicity of the potential risks of e-shopping will lead to low perceived risk, and this was supported by Miyazaki and Fernandez (2001) who suggested that time would dissolve consumer concerns regarding the privacy and security of online shopping.

Trust (H8, H9 and H10)

H8: There is a negative relationship between trust and the perceived risk of travel e-shopping *(Supported)*

H8 was supported (t-value=-5.243, p<.001), with findings indicating a negative relationship between the trust and perceived risk constructs. This suggests that if consumers have greater trust in travel e-shopping, their perceptions of the risks involved in e-shopping would be lower. This result is consistent with many previous studies on trust-risk

relationships, such as Sztompka (1999), Stewart (1999), Jarvenpaa et al. (1999 & 2000), Ratnasingham and Kumar (2000) and Einwiller et al. (2000).

H9: There is a positive relationship between trust and the perceived usefulness of travel e-shopping *(Not Supported)*

In H9, the result revealed that trust in travel e-shopping exerts a non-significant effect on perceived usefulness (t-value=.915). This finding is unexpected because there is considerable evidence to demonstrate that consumer trust plays an important role in e-shopping and could significantly influence the perceived usefulness of new technologies (e.g. Doney and Cannon, 1997; Koufaris, 2002; Jarvenpaa et al., 2000). Apparently, this might be due to the nature of Internet stores, where salespersons are replaced by the company's web site. As a result, customers' experience with and perceptions of the website can influence their assumptions about the nature of the company and its trustworthiness (Friedman et al., 2000; Tan and Thoen, 2001).

H10: There is a positive relationship between trust and the adoption of travel e-shopping *(Not Supported)*

The proposed relationships between trust and adoption in H10 were rejected (t-value= -714), which means the effect of trust on travel e-shopping adoption was not supported by the data. This finding was rather unexpected, given adequate empirical evidences demonstrating that trust plays a significant role in the context of e-shopping (e.g. Ratnasingham, 1998; Swaminathan et al., 1999; Hoffman et al., 1999; Friedman et al., 2000; Lee and Turban, 2001; Tan and Thoen, 2001). Given the lack of physical exposure and human contact in the online market environment, Lynch et al., (2001) pointed out that trust as an attribute may affect shoppers' willingness to purchase online. On the other hand, this result supports the work of Friedman et al. (2000), who argue that lack of confidence in financial transactions and security are reducing consumers' acceptance of this innovative e-shopping technology. Similar to H7, the result shows that the adoption of travel e-shopping was not directly influenced by either trust or perceived risk; instead, there was an indirect influence through perceived usefulness (see H4).

Consumer Involvement (H11, H12 and H13)

H11: There is a positive relationship between consumer involvement and the adoption of travel e-shopping *(Supported)*

H11 was supported (t-value=2.307, p<.01), with the findings indicating that there was a positive relationship between consumer innovativeness and the adoption of travel e-shopping. The result supported the findings of Zaichkowsky (1985) and Peter and Olson (1996), where consumers' innovativeness with a 'personal relevance' aspect was found to

affect their motivation to engage in problem-solving activities such as e-shopping. As the use of Web activities has been found to be dominated by searching or deliberation behaviour, which leads to high involvement levels (Singh and Dalal, 1999; La Ferle et al., 2000; Moe and Fader, 2001), this finding significantly contributes to the understanding of the role of consumer involvement in the adoption of travel e-shopping.

H12: There is a positive relationship between consumer involvement and trust in travel e-shopping *(Supported)*

H12 was supported by the data (t-value=3.978, p<.001). This implies that consumer involvement was positively affected by trust in travel e-shopping. The more consumers were involved with e-shopping, the more trust they gained in travel e-shopping. This finding indicates that consumer involvement is amongst the factors that contribute to the trust building of Internet shoppers, alongside perceived ease-of-use (H3). In this way, if consumers consider that e-shopping is a risky act, they will not trust in this shopping medium until they reduce their uncertainty levels, usually by engaging in high-involvement behaviours (Wolfinbarger and Gilly, 2001).

H13: There is a negative relationship between consumer involvement and the perceived risk of travel e-shopping *(Supported)*

In H13, the result indicates that the relationship between consumer involvement the and perceived risk of travel e-shopping was supported (t-value=-2.560, p<.01). This relationship demonstrated that the level of consumer involvement does affect the perceived risk associated with travel e-shopping. The more shoppers are involved with travel e-shopping, the lower their perceptions of the associated risk. Risk is often viewed as an antecedent of involvement (Choffee and McLeod, 1973), particularly when the price is high and the consumer risks losing money. Laurent and Kapferer's (1985) conceptualisation of involvement included four components (the product's pleasure value, its symbolic value, risk importance and the probability of purchase error), of which two are related to risk. Consumers with low product knowledge and low product involvement are likely to perceive higher risk toward a lesser-known brand than a well-known brand and to rely on extrinsic cues, such as brand name, price, and physical appearance, to perform product evaluations (Olson and Jacoby, 1972; Park and Lessig, 1981; Dawar and Parker, 1994; Heilman et al., 2000).

Consumer Innovativeness (H14)

H14: There is a positive relationship between consumer innovativeness and the adoption of travel e-shopping *(Supported)*

The result for H14 indicates that the relationship between consumer innovativeness and the adoption of travel e-shopping was positive and significant (t-value=4.443, p<.001). This result offers empirical evidence that consumer innovativeness does influence adoption decisions regarding new technology such as travel e-shopping. In line with this hypothesis, many empirical studies have emphasized the relationship between the adoption of new ideas or technology and consumer innovativeness as a generalized predisposition (e.g., Midgley and Dowling, 1978; Foxall, 1988 & 1995; Rogers, 1995; Goldsmith et al., 1995; Manning et al., 1995).

Opinion Leadership (H15)

H15: There is a positive relationship between opinion leadership and the adoption of travel e-shopping *(Not Supported)*

H10 was rejected (t-value=1.438), as the data indicated that there was no relationship between opinion leadership and adoption. This result is acceptable, as opinion leadership was found to have a very strong correlation with consumer innovativeness, and in this analysis, consumer innovativeness (H9) has demonstrated a very strong positive relationship with adoption. In this regard, the influence of opinion leadership on adoption was mediated by TAM elements in the final model (see H16).

Based on the results of the hypothesis testing of the proposed model, the research questions will be discussed and research implications, suggestions and contributions will be put forward in the next two chapters. Following the hypothesis testing, in the subsequent section the overall fit of the initial structural model was examined in order to validate that it was an adequate representation of the entire set of causal relationships (Hair et al., 1998).

7.3.3   Goodness-of-fit Assessment of Proposed Model

In assessing the goodness-of-fit of the proposed model, the results of the hypothesised model estimation were first inspected for senseless estimates. This happens when the errors variances are negative, standardised coefficients exceed or are very close to 1.0, or a very large standard error is associated with any estimated coefficient (Bollen, 1989b; Hair et al., 1998). In this particular review, all constructs demonstrated acceptable or reasonable estimates.

While there are many goodness-of-fit statistics in SEM, in this structural model assessment, only the most popular measures are reported. In keeping with measurement model

assessment, each structural model was assessed based on: Chi-square (x^2) (Marsh and Balla, 1988); the Goodness-Of-Fit Index (GFI) (Bentler, 1990); the Adjusted Goodness-Of-Fit Index (AGFI) (Cole, 1987); the Comparative Fit Index (CFI) (Bentler and Bonett, 1980); the Root-Mean-Square Residual (RMR); and the Root Mean Square Of Approximation (RMSEA) (Bollen, 1989b). The following criteria were applied to assess model-data fit: GFI values not less than .90, (Bentler, 1990), AGFI values greater than .80, (Cole, 1987), CFI values greater than .95 (Bentler, 1990), RMR values closer to .00 and RMSEA between .05 and .08 (Bollen, 1989b). Path coefficients were tested for significance using critical ratios (t-value). A t-value of 2.00 is considered statistically significant at the .05 level (Bollen, 1989b) (see Chapter 5).

Subsequently, the goodness-of-fit indices of the hypothesised model were assessed and the results are presented in Table 7.11. The results revealed that the χ^2 value was 393.905 with 191 degree-of-freedom (p<.0001), thus representing an inadequate fit of the data to the hypothesised model. As the sample size of this study was considered slightly smaller (299 cases), the use of the χ^2 value provides little guidance in determining the extent to which the proposed model fits the data (Byrne, 1998). However, other goodness-of-fit indices have been suggested to help model evaluation (Bentler, 1990; Jöreskog and Sörbom, 1996), given the fact that the χ^2 test is sensitive to sample size (Bollen and Long, 1993; Byrne, 1998).

The estimation of the hypothesised model yielded GFI and AGFI values of .89 and .86 respectively, which is rather lower than those of CFI (.94) and IFI (.94). By convention, GFI and AGFI should be equal to or greater than .90 if the model is to be accepted. However, according to Bollen (1990), GFI tends to be larger as sample size increases; correspondingly, AGFI may underestimate the fit of small sample sizes. Besides, RMR and RMSEA value of .086 and .06 respectively indicate that the model fit was moderately acceptable. Further, the chi-square ratio (χ^2/df) of 2.062 indicates that the model is a marginal fit. As a whole, the fit indices indicate that the hypothesised model's fit to the data is slightly inadequate and a better fit could be achieved if some modifications were made. Byrne (2001) suggests that if the goodness-of-fit measure were adequate, this would thereby reveal the possible linkages between the constructs; conversely, if the fit measure is inadequately achieved, the tenability of the hypothesised relationship is rejected. **According to Baumgartner and Homburg (1996), it is quite unlikely that the initial model proposed by the researcher will be the one that is eventually presented as a well fitting model. Thus, re-specification of the model is suggested in order to ascertain a better-fitting and more parsimonious model. Subsequently, the next section describes the process of examining and identifying potential areas of improvement in re-specifying the structural model.**

Table 7.11: Goodness-of-fit Measures for Structural Models

Model	Parameter Modification	x^2	Δx^2	df	p	x^2/df	Absolute Fit Measures GFI	RMR	RMSEA	Incremental Fit Measures AGFI	TLI	NFI	Parsimonious Fit Measures PGFI	PNFI	CFI	IFI
HM		393.905		191	.000	2.062	.895	.086	.060	.861	.926	.889	.676	.735	.939	.939
RM1	TRUST→ADOPT# PEU→ADOPT# TRUST→PU# OL→ADOPT# PR→ADOPT# PEU→PR#	405.066	5.025	197	.000	2.056	.894	.087	.060	.863	.926	.885	.696	.755	.937	.938
RM2	OL→PEU*	358.639	46.427	196	.000	1.830	.903	.055	.053	.875	.942	.899	.700	.762	.951	.951
RM3	INVOLVE→PEU*	337.251	21.388	195	.000	1.729	.908	.040	.049	.881	.949	.905	.700	.764	.957	.957
RM4	INNOV→TRUST*	319.319	17.932	194	.000	1.646	.912	.034	.047	.886	.955	.910	.700	.764	.962	.962

Note: *new parameter added; #parameter deleted

7.3.4   Alternative Structural Models

Given that the hypothesised model did not adequately account for the relationships among the constructs in the model, a process of post hoc model fitting was undertaken to arrive at a more parsimonious model without reducing model-fit (Byrne, 2001). Model modification searches are common practice in SEM applications, and model generating has become the most common and preferred situation encountered in practice (Marcoulides and Drezner, 2001).

The post hoc analysis distinguishes between the results of the estimation of theory-based models that were specified prior to analysis of the data and results based on post-hoc modification of a priori models. However, some researchers have criticized post hoc model fitting, while others have noted that the process considers both practical and statistical significance. Nevertheless, post hoc fitting should be viewed as exploratory and fitted models should be cross-validated on other samples from the same population. Hair et al. (1998), on the other hand, suggested that the best way to test the overall model is by comparing it to a series of alternative models. However, it is important to note that the formulation of the alternative models must be guided by substantive theoretical and empirical considerations and they must be practically meaningful (Hair et al., 1998). Thus, the modification made to the hypothesised model was carefully based on this suggestion.

In AMOS, there are several indicators that could be used as bases for re-specifying the hypothesised model, such as the t-value significance test, the modification indices, the residual analysis and the covariance errors. In this study, the t-value and the modification indices were used to ascertain any meaningful evidence of misspecification, which could potentially improve the goodness-of-fit of the hypothesised model.

i.   Revised Model 1

In the first step of model improvement, statistically insignificant t-values and small-standardised coefficients - that is, those less than .05 - were removed from the proposed model. This was based on Bentler and Chou's (1987) suggestion that it is generally safer to drop parameters than to add new parameters when modifying models. Furthermore, discarding the non-significant paths could markedly improve the parsimony of the proposed model (Byrne, 2001).

Thus, six paths were deleted one at a time in the first modification: (1) Trust to Adoption (2) Perceived ease-of-use to Adoption (3) Trust to Perceived usefulness (4) Opinion leadership to Adoption (5) Perceived risk to Adoption (6) Perceived ease-of-use to Perceived risk. After the elimination, the new revised model 1 (RM1) was re-estimated. There were no

significant improvements found in meeting the criteria in the overall model fitting. As depicted in Table 7.11, the χ^2 value was 405.066, with 197 degree of freedom, (p=.000), thereby suggesting that the fit of the data to RM1 was inadequate. The χ^2 difference test between the hypothesised model and RM1 was not statistically significant ($\Delta\chi^2_{(5)}$=5.025), indicating that the deletion of these paths did not result in a significant χ^2 increase. All other fit indices remained approximately the same or showed very little increase (see Table 7.11). Values related to the GFI, AGFI, CFI, RMR and RMSEA were .89, .86, .94, .087 and .060 respectively. This indicates that RM1 needed further modification, as it could not explain the data based on the overall fit.

ii.   Revised Model 2

Following the deletion of insignificant parameters of the hypothesised model, a review of the modification indices (MI) of RM1 revealed some evidence of misfit in the model. In AMOS, MI is used to generate the expected reduction in the overall model-fit χ^2 for possible paths that can be added to the model. However, this must be done carefully and with theoretical justification. Using MI blindly would run the risk of capitalisation on chance and model adjustments that make no substantive sense (Silvia and MacCallum, 1988). Therefore, very cautious steps were taken in improving the hypothesised model based on the MI results. One arbitrary rule of thumb is to consider adding paths associated with parameters whose MI exceeds 100. However, another common strategy is simply to add the parameter with the largest MI (even if considerably less than 100), and then see the effect as measured by the χ^2 fit index.

In reviewing the MI output of RM1, it was noted that there were five MI that could be taken into account in the determination of a well-fitting model. The largest MI (42.378) was associated with a path from Opinion leadership to Perceived ease-of-use (OL→PEU). The MI value of 42.378 indicates that if this parameter were to be freely estimated in a subsequent model, the overall χ^2 value would drop by at least this amount. The expect parameter change (known as 'par change' in AMOS) related to this parameter is (.285), which represents the approximate value that the newly estimated parameter would assume (Byrne, 2001). From a substantive perspective, it would seem reasonable that opinion leaders, who are more likely to be the first consumers to adopt new ideas, responded positively to the ease of using the Internet as a new medium of shopping. Further theoretical justifications are discussed in the following section (see Section 7.3.6) and Chapter 8 (see Section 8.1).

Given the meaningfulness of this pattern, the model was re-estimated with the new path from OL to PEU specified as a free parameter. This model is subsequently labelled Revised Model 2 (RM2) and the results related to this model are presented in Table 7.11.

The estimation of RM2 generated an overall χ^2 value of 358.639, with 196 degrees –of freedom, (p<.0001), and a χ^2/df ratio of 1.830, which demonstrated a dramatic improvement from RM1. In addition, the model difference was statistically significant at ($\Delta\chi^2_{(1)}$=46.427). The value of GFI of .90, AGFI of .88, CFI of .95, RMR of .055, and RMSEA of .053 justified that the model had achieved an acceptable fit overall. Moreover, the parameter estimate path from OL to PEU was slightly higher than the one predicted by the 'par change' and it was statistically significant at the .001 level with a t-value of 6.22.

iii.   Revised Model 3

Upon examining the R^2 values (after the addition of OL→PEU), the MI result revealed that there were still three possible links between the constructs, which could have a better fit if the paths were added. Even though the links are easy to include, it should be done based on theoretical justification, not just the magnitude of the MI. Given the highest MI of 18.30 and the substantial relationship between Consumer Involvement and Perceived ease-of-use (INVOLVE→PEU), this path was added to the model.

Theoretically, it would be reasonable to assume that high levels of involvement when shopping online would enhance respondents' perceived ease-of-use of the new shopping medium. Based on the empirical literature reviewed, a few TAM studies have found that consumer involvement plays a prominent role in explaining the adoption of new technology, in which perceive ease-of-use is a main component of TAM. As a result, the model was re-specified to see whether there was a significant improvement to the fit indices with the additional path (INVOLVE→PEU). Further theoretical support for this new finding is elaborated in the following section (see Section 7.3.6 and Section 8.1).

The new structural model, labelled as Revised Model 3 (RM3) was re-estimated with the aforementioned path specified as a free parameter, and the results are presented in Table 7.11. The parameter estimate for (INVOLVE→PEU) was found to be statistically significant at .001 level with a t-value of 4.525. The χ^2 value of the RM3 dropped to 337.251 with 195 degrees of freedom (p <.001); the χ^2 difference test between the RM2 and RM3 was statistically significant ($\Delta\chi^2_{(1)}$=21.388), indicating that the addition of the path produced a significant χ^2 increase to the overall model. The goodness-of-fit statistics were improved (GFI=.91, CFI=.96, AGFI=.88, RMR=.04 and RMSEA=.049), which shown that statistically,

the model had reached a satisfactory level of fit. Further elaboration of the relationship was presented in the hypotheses testing section (see Section 7.3.6 and Section 8.1).

iv.   Revised Model 4

In re-estimating RM3, there was still an MI left, featuring a possible path from Consumer Innovativeness to Trust (INNOV→Trust) for a better-fitting model. The MI value for the suggested link was 14.559, which means if this parameter were to be freely estimated in the following model, the overall χ^2 value would drop by at least this amount. Following Byrne's (1998) recommendation, there are three guidelines for knowing when to stop fitting a model: (1) thorough knowledge of substantive theory, (2) adequate assessment of statistical information based on various fit indices, and (3) model parsimony. Hence, the path of (INNOV→Trust) was added and re-estimated.

Once again, from a substantively meaningful perspective, it could be expected that respondents with high innovative traits (known as Innovators) would be likely to have more trust in using the Internet as a new medium of shopping. Examination of the existing literature revealed that several studies with pertinent scope seem to have featured innovativeness and trust as characteristics of Internet shoppers. Justification of the link is presented in the subsequent section (see Section 7.3.6) and Chapter 8 (Section 8.1). The goodness-of-fit measures for the Revised Model 4 (RM4) are shown in Table 7.11, presented earlier.

The estimation of the RM4 yielded a χ^2 value of 319.319 with 194 degrees of freedom, (p=.000) and a χ^2/df ratio of 1.646. In this model, there was a further significant increase in χ^2 difference from RM3 of ($\Delta\chi^2_{(1)}$=17.93) after adding the path. The t-value of 4.209 associated with the new path coefficients exceeded the critical value of 1.96 at the significance level of .001. There were also further improvements in the fit of RM4 compared to RM3. The model yielded a GFI of .912, AGFI of .87, CFI of .96, RMR of .034 and RMSEA of .047, which was the highest compared to other alternative models (RM1, RM2 and RM3).

Moreover, based on the MI report, it was determined that no further modifications were suggested and other indices of this model showed adequate fit. **As a result, RM4 was adopted as the final structural model. A schematic representation of the final model is illustrated in Figure 7.4, including the three new parameters that were not in the original hypothesised model of this study. A detailed discussion regarding the hypothesis testing will follow in the next section.**

Figure 7.4: Final Structural Model
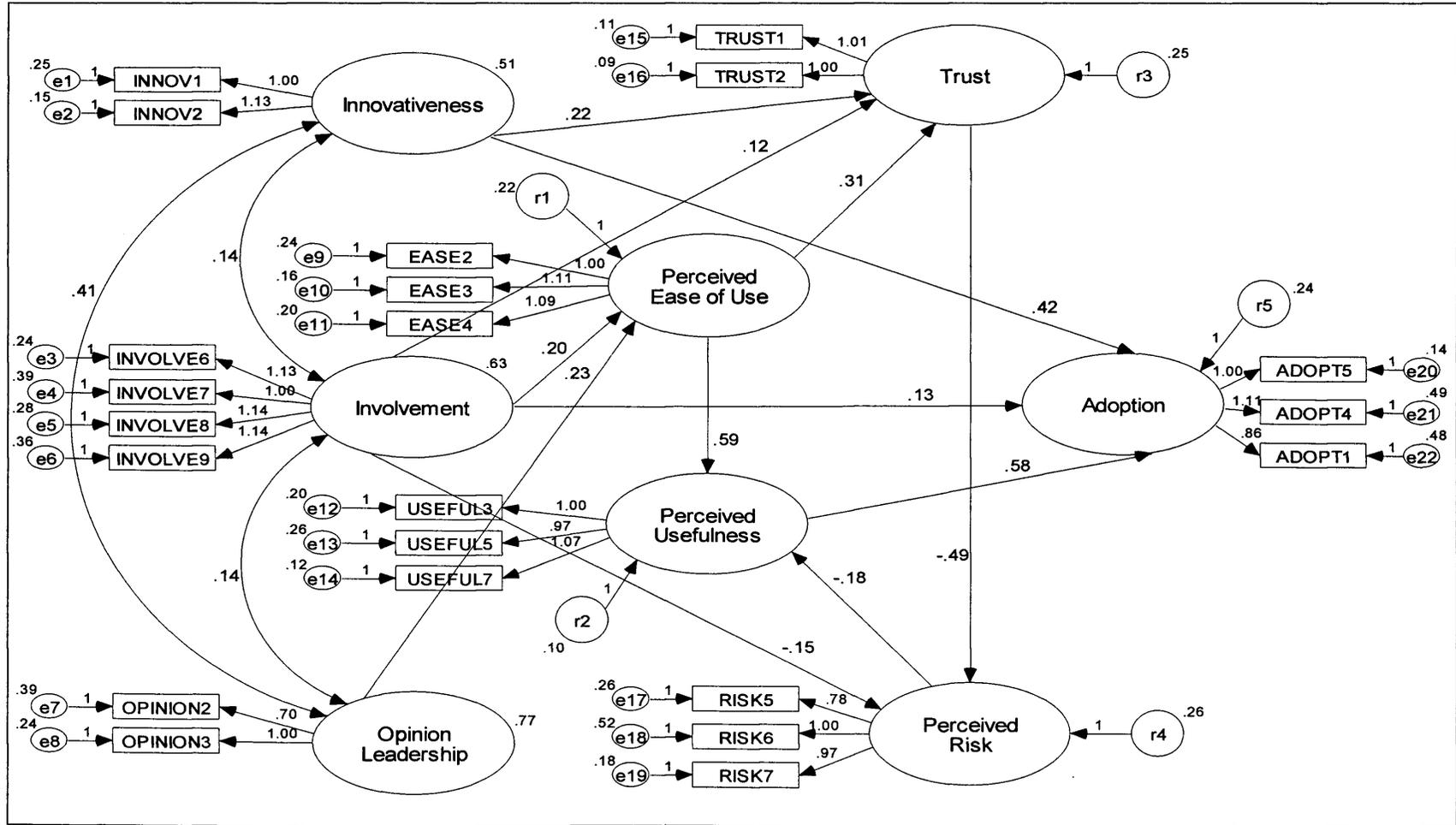
7.3.5 Goodness-of-fit Assessment of Alternative Models

A summary of the model revision process and the associated goodness-of-fit statistics with added parameters is reported in Table 7.11. The result denotes that the estimation of RM1 remained unchanged or very minimally increased on most of the goodness-of-fit statistics as compared to the hypothesised model (HM); for instance, the GFI, RMR, RMSEA, CFI and IFI showed no increase. The overall χ^2 difference ($\Delta\chi^2$) was negligible and the elimination of insignificant parameters in RM1 had no affect on the RMSEA and RMR. Therefore, based on the above evidence, RM1 was disregarded for further consideration.

Looking at the χ^2 difference between RM1 and RM2, it was statistically significant ($\Delta\chi^2_{(1)}$=46.427). This signifies that RM2 demonstrates a better fit to the data. Additionally, the χ^2/df ratio, RMR and RMSEA noticeably dropped to 1.830, .55 and .053 respectively, compared to HM and RM1. Furthermore, the re-specified path (OL→PEU) was significant, with a standardised coefficient of .46, t-value of 6.22 and probability at p≤.001. This result confirmed that the suggested path did absolutely influence consumer adoption of travel e-shopping.

The estimation of RM3 after adding the (INVOLVE→PEU) path yielded an overall $\chi^2_{(195)}$ value of 337.25. The χ^2 difference between RM2 and RM3 was statistically significant ($\Delta\chi^2_{(1)}$=21.388). The values of other fit statistics improved remarkably, especially the absolute fit measures (GFI, RMR and RMSEA). This implies that the RM3 has better fitting compared to the preceding models. Thus, these findings provide an answer to why innovators tend to adopt new ideas faster than other majorities, as their innovative traits influence trust in shopping via the Internet.

Ultimately, RM4 was re-estimated with the inclusion of the (INNOV→Trust) path, based on the MI of RM3. Although there was a slight improvement to the model-fit, the χ^2 difference still exhibited a statistically significant increase at ($\Delta\chi^2_{(1)}$=17.932). Besides, the fit indices also displayed an expected improvement to the model, albeit marginal. For instance, the CFI value increased slightly from .957 (RM3) to .962 (final model) and the RMR value dropped somewhat from .040 (RM3) to .034 (final model). Additionally, the χ^2/df also exhibited the lowest ratio of all the competing models, with a value of 1.646. Evidently, the final model is the most parsimonious and represents the best fit to the data overall. Hence, no further consideration was given to the inclusion of additional parameters, as doing so might result in an 'over-fitted model' (Byrne, 2001). A detailed discussion regarding the hypotheses testing will follow in the next section.

7.3.6   The Final Model

In essence, the findings offer empirical evidence to the marketing literature that there are causal relationships between: (1) Opinion leadership and Perceived ease-of-use (2) Consumer Involvement and Perceived ease-of-use (3) Consumer Innovativeness and Trust in the context of travel e-shopping.   A schematic representation of this final model is exhibited in Figure 7.5.   The final model's estimation results, which are comprised of standardised coefficients and t-values, are exhibited in Table 7.12.   The t-value associated with each of the path coefficients exceeded the critical value of 1.96 at a significance level of .05 (Mueller, 1996).

Figure 7.5:   Final Structural Model and Hypotheses Paths
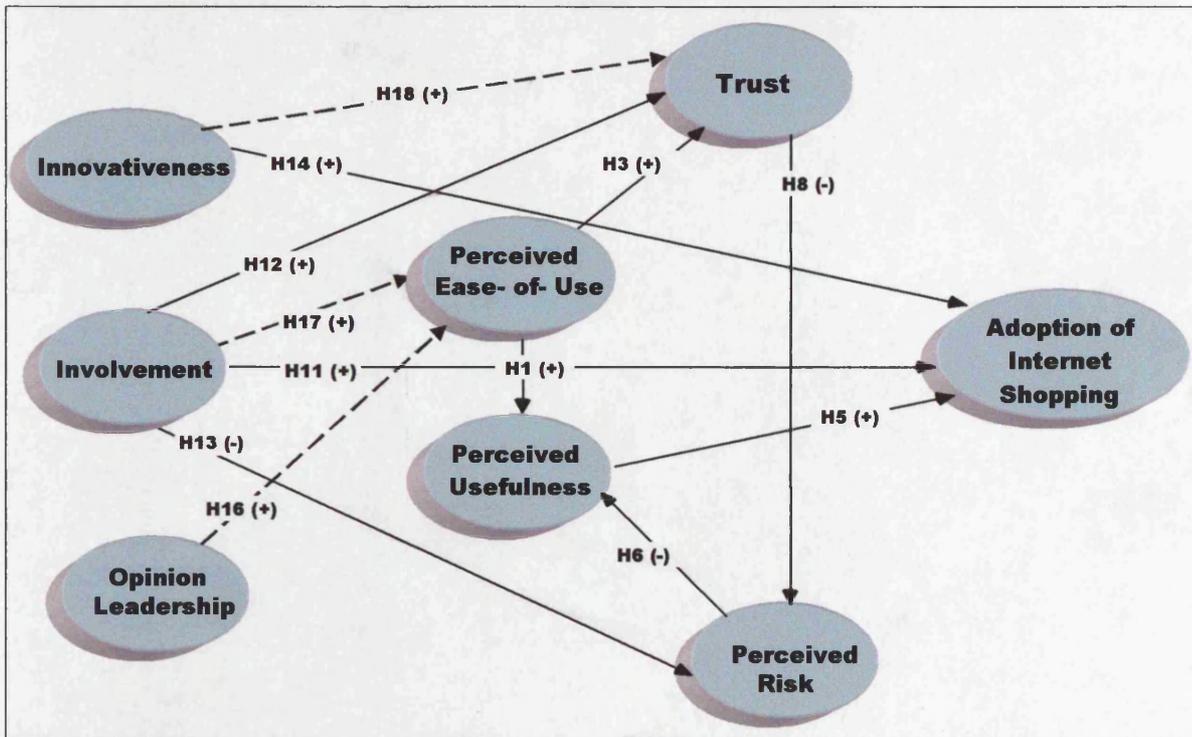
Table 7.12:   Final Structural Model Hypotheses Test Results

Hypotheses and Hypothesised Paths		Standardised Coefficient	t-value	Results
H1:	Perceived Ease-of-use ➔ Perceived Usefulness	.657	8.577***	Supported
H3:	Perceived Ease-of-use ➔ Trust	.283	4.080***	Supported
H5:	Perceived Usefulness ➔ Adoption	.394	6.184***	Supported
H6:	Perceived Risk ➔ Perceived Usefulness	-.225	-3.585**	Supported
H8:	Trust ➔ Perceived Risk	-.472	-6.084***	Supported
H11:	Consumer Involvement ➔ Adoption	.143	2.511*	Supported
H12:	Consumer Involvement ➔ Trust	.167	2.608**	Supported
H13:	Consumer Involvement ➔ Perceived Risk	-.189	-2.803**	Supported
H14:	Consumer Innovativeness ➔ Adoption	.430	7.219***	Supported
H16:	Opinion Leadership ➔ Perceived Ease-of-use	.365	5.168***	Supported
H17:	Consumer Involvement ➔ Perceived Ease-of-use	.294	4.574***	Supported
H18:	Consumer Innovativeness ➔ Trust	.270	4.209***	Supported

Note: ***p<.001; **p<.01; *p< .05
H16, H17 & H18 are new parameters/ paths

7.3.7 The New Paths of the Final Model

H16:   There is a positive relationship between opinion leadership and perceived ease-of-use of travel e-shopping

The result of H16 suggests that opinion leaders are most likely to perceive travel e-shopping as an easy task.   As describe in the theoretical chapter (Chapter 4), opinion leaders are consumers who have higher levels of product knowledge and communication ability compared to other social groups or communities.   Likewise, previous diffusion studies have implicitly assumed that opinion leaders are not only knowledgeable, but also inherently willing to transfer their knowledge to other consumers (e.g. Myers and Robertson, 1972; Richins and Root-Shaffer, 1988).   The opinion leaders who are supposed to have extensive experience and skills in e-shopping might identify travel e-shopping as a simple or effortless task.   In ensuring the validity of this new finding, these variables need to be tested in different contexts, as online consumer behaviour is known to be unpredictable. **Thus, the discovery of a new relationship between opinion leadership and perceived ease-of-use obviously contributes to the existing TAM studies on influences on consumers' perceived ease of use of new technologies.**

H17:   There is a positive relationship between consumer involvement and perceived ease-of-use of travel e-shopping

The result of the final model from Table 7.12 shows that the relationship between consumer involvement and perceived ease-of-use was highly significant and positive (t-value=4.574, p<.001). This finding suggested that consumer involvement in travel e-shopping had a positive effect on the perceived ease-of-use of this shopping method. As discussed in the literature chapter (Chapter 3), perceived ease-of-use relates to the intrinsic nature of the technology, such as whether it is easy to use, easy to learn and flexible (Davis, 1989). In other words, the degree to which an individual believes that e-shopping is easy or free of effort (Davis, 1989) depends on personal involvement, which is literally referred to as the perceived relevance of e-shopping based on consumers' inherent needs, values and interests (Zaichkowsky, 1985).

In e-shopping, information retrieval is interactive, and interaction requires both the user and the system to play different roles in performing different tasks (Beaulieu, 2000); thus this affects the users' involvement levels. The ease of e-shopping is based on how much involvement is needed to engage with the systems. Accordingly, Koufaris (2002) found that product involvement, web skills, challenges and the use of value-added search mechanisms all have a significant impact on Web consumers such as Internet shoppers. **In the same way as H16, this finding also contributes to the TAM model, indicating that whether consumers perceive a new technology as an easy task depends on their personal characteristics (i.e. consumer involvement and opinion leadership).**

H18:   There is a positive relationship between consumer innovativeness and trust in travel e-shopping

This new path postulates that consumers who have greater innovative traits would have stronger trust in travel e-shopping. In previous studies, Internet purchasers have been described as more innovative (Donthu and Garcia, 1999) and not uncomfortable with using technology (Ebiz, 1999). Moreover, innovators are usually described as venturesome, eager to try new experiences, always seeking new sensations, and in search of everything new and different (Roehrich, 1994; Rogers, 1995). Therefore, in some way, these traits show that those who shop online (Internet shoppers) are more trusting (Donthu and Garcia, 1999) as compared to non-Internet shoppers. Hence, Internet shoppers who appear to be innovators perceive online shopping as trustworthy. **This finding lends credence to Hoffman and Novak (1997), Donthu and Garcia (1999), Kim and Prabhakar (2000) and Jarvenpaa et al. (2002), who convincingly anticipated the profile of Internet shoppers, which includes trust and innovative traits. Ultimately, the finding extends**

the e-trust literature as well as providing a theoretical insight into factors contributing to consumer' e-trust.

7.3.8   Summary of Findings

The data analysis presented in this chapter was carried out in accordance with a two-step method (Anderson and Gerbing, 1988) where "*the measurement model is first developed and evaluated separately from the full SEM*" (p.191). Accordingly, the first step in the data analysis was to establish the unidimensionality, reliability, convergent and discriminant validity of the construct with Confirmatory Factor Analysis (CFA). All three measurement models were within the accepted thresholds for CFA.

Secondly, the full proposed structural model was estimated on the cleansed measurement models. The fit indices were below acceptable thresholds, showing inadequate fit to the data (χ^2=393.905; df=191), and some modifications were required to achieve the best fit threshold. Subsequently, modifications were carefully made to the hypothesised model based on the SEM output suggestions. However, it is important to note that the formulation of the alternative models was guided by substantive theoretical and empirical considerations and practical meaningfulness (Hair et al., 1998).

Thirdly, based on the modifications, four alternative models (i.e. RM1, RM2, RM3 and RM4) were developed and tested via SEM to examine which model performed best in explaining the Internet shopping adoption for travel services. For each model, overall fit, predictive power and the significance of the path were reported. The result suggested that the RM4 is the best model to predict the adoption of travel e-shopping due to its goodness-of-fit indices. Eventually, the final model was generated and subsequently accepted, as it is the most parsimonious model and represents the best fit to the data (see Figure 7.5 and Table 7.12).

In summary, of the 15 hypothesized paths from the proposed model, nine of them were found to be statistically significant after the final SEM analysis. They are: PEU→PU; PEU→Trust; PU→Adoption; PR→PU; Trust→PR; Involvement→Adoption; Involvement→Trust; Involvement→PR and Innovativeness→Adoption. The other six hypothesised paths were found to be insignificant; they are PEU→PR; PEU→Adoption; PR→Adoption; Trust→PU; Trust→Adoption and Opinion Leadership→Adoption. On the other hand, interestingly, three new causal paths were found from the SEM model re-specifications; they are Opinion Leadership→PEU; Involvement→PEU and Innovativeness→Trust. These new findings will be discussed in the following chapter.

7.4 Conclusion

Chapter 7 explained the main analytical process of the present study employing SEM. This chapter sought to achieve three objectives. Firstly, it presented the data preparation and screening procedures, including the detection of outliers and normality. There were few outliers, which were retained to ascertain generalisability. The result of the normality test revealed that the assumption of multivariate normality was satisfied.

Secondly, the latent constructs and the observed measures were validated by confirmatory factor analysis. All of the measurement models satisfied the criteria of unidimensionality, reliability, convergent validity and discriminant validity. Finally, the hypothesised relationships between the latent variables were tested using structural modelling. The next chapter will address and discuss the research questions, as formulated in Chapter 1, drawing upon the research findings, and will be followed by the conclusions of the overall data analysis, including the implications of these findings and suggestions for future research.

DISCUSSSIONS & IMPLICATIONS

"In retailing the first consideration in the design of a shop should be ease of shopping for the customer. Being able to find what you want is the key thing, and only after that do aesthetics come into it."

– Sir Simon Hornaby –
(Chairman, WH Smith & Son, Holdings plc.)
– Telegraph Magazine (26 February 1988) –

THE THESIS STRUCTURE

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Chapter Eight
DISCUSSIONS AND IMPLICATIONS

8.0 Introduction

This chapter continues the discussion of the findings from Chapters 6 and 7 with a focus on answering the research questions presented earlier in Chapter 1. This chapter summarises the research findings by analysing how the results of the hypothesis testing have contributed towards addressing the research questions. The discussion follows, including the implications of the research findings for theory and practise. This discussion includes practical suggestions with regard to online marketing strategies and approaches within the online tourism industry.

8.1 Discussion of Research Questions

A structural equation model was utilised to test a series of hypotheses that attempted to identify the structural relationship between the constructs on the proposed Internet shopping adoption model. As presented in the preceding chapter, nine of fifteen hypotheses proposed in this study were supported, and those hypotheses generated statistically significant t-values and standardised coefficient scores (see Chapter 7, Section 7.3.1). The subsequent sections offer detailed discussions of the findings addressed by the following research questions:

RQ1: What is the profile of travel e-shoppers?

RQ2: Do perceived ease-of-use (PEU) and perceived usefulness (PU) influence the adoption of travel e-shopping? How do the variables affect e-shoppers' decisions with regard to adopting e-shopping?

RQ3: Do individual characteristics influence the adoption of travel e-shopping? How do these variables affect e-shoppers' decisions with regard to adopting e-shopping?

RQ4: Do perceived risk and trust influence the adoption of travel e-shopping? How do perceived risk (PR) and trust affect e-shoppers' decisions with regard to adopting e-shopping?

In addressing the research questions, this section is devoted to the assessment of the descriptive analysis (see RQ1) and examination of each hypothesis path, which includes investigating the interrelationships among constructs, examining several pertinent constructs simultaneously, and in certain cases clarifying specific issues or concerns (see RQ2, RQ3 and RQ4). Subsequently, by responding to the research questions, it is able to explicitly highlight the contributions of this study.

8.1.1 Research Question 1

What is the profile of travel e-shoppers?

Profile of Travel E-Shoppers

Many previous studies have suggested profiles of Internet shoppers in terms of demographics and shopping patterns (e.g. Donthu and Garcia, 1999; Citrin et al., 2000; Blake et al., 2003; Bhatnagar and Ghose, 2004). However, most of them have been limited either to the context of non-UK markets or to tangible products such as books, groceries or food products. This study extends these borders to the UK market and focuses on travel e-shopping. By understanding the UK online market segments, e-markets could design effective and appropriate marketing strategies for their target markets.

As described previously (see Chapter 5), in order to profile travel e-shoppers, an online survey invitation was sent to 1834 e-shoppers, and 300 of these, who had experienced travel e-shopping, qualified to take part in this study. The detailed descriptive results (see Chapter 6) revealed that the typical Internet shopper is different from a typical Internet user, as well as revealing differences between early and later adopters. The profile of travel e-shoppers is summarised in Table 8.1, which portrays a few groups that contain higher percentages of the total respondents.

Table 8.1: The Profile of Travel E-Shoppers

Characteristics	Categories	Percentage
Gender	Male	32.8
	Female	67.2
Age	Below 24	13.3
	25 to 44	69.6
	Above 45	17.1
Education	High School Certificates	45.9
	Graduates and Professionals	54.1
Marital status	Single	21.1
	Married/ Living with partner	75.3
Household Social Group	Middle	38.8
	Lower Middle	34.8
Locations	Southern Regions	26.4
	Eastern Regions	12.4
	London	10.4
MOSAIC Group	Happy Families	11.7
	Ties Of Community	11.7
	Suburban Comfort	9.4
Estimated Household Income (based on MOSAIC)	£45,000 and above	15.1
	£25,000 to £44,999	21.1
	£13,500 to £24,999	11.7
Internet Usage	4 to 6 years	44.15
	7 to 9 years	26.76
Types of products purchased online other than travel services*	Videos, CDs or DVDs	81.3
	Books or magazines	74.2
	Gifts or flowers	66.2
	Clothing, accessories or cosmetics	60.2
	Computer related products	59.2
	Electronics or appliances	54.8
	Telecommunication products	50.5
Online travel information search frequency	Several times per-month	40.13
	Every 3 months	26.76
Length of adopting travel e-shopping (Early Adopter vs. Later Adopter)	3 years or more	53.52
	2 years or less	46.48
Types of travel website shopped*	Web-based travel agents	72.9
	Companies' websites	64.2
Frequent travel purchase (at least once a year)*	Accommodation	79.9
	Flight tickets	77.6

Note: * percentage on each category

Based on Table 8.1, the profile of e-travel shoppers may be described as follows:

Demographic

First, the demographics of the travel e-shoppers suggest that these are consumers who are mostly female, younger (20s to 30s), in married or non-married couples and have relatively high incomes. It is found that they have smaller households where there are mostly no children below 18 years old. The study also revealed that most travel e-shoppers are highly educated and fall into middle to lower middle household social groups. As most of

them are income earners who spend most of their time at the workplace, e-shopping allows them to shop 24/7 conveniently from anywhere. This makes them positive towards travel e-shopping compared to other Internet users.

In comparison between early and later adopters of travel e-shopping, the most significant differences found are in age and qualifications. The result indicates that the early adopters are in the older age range compared to later adopters. However, the early adopters have obtained higher educational qualifications compared to later adopters.

Geodemographic

Second, based on the travel e-shoppers' postcodes, most of them are located in the South East (13.7%) followed by the South West (12.7%), Eastern regions (12.4%) and Greater London (10.4%). This finding indicates that most of the UK population who purchase travel services via the Internet are from eastern and southern parts of the UK, including London, with more than 50 percent of the sample. However, this result might be influenced by the population of each region and the distribution of the registered participants obtained from the database. The travel e-shoppers are found mostly from the Ties of Community[1] and Happy Families[2] groups of MOSAIC's segmentation (see Chapter 6). These groups are profiled as young couples, professionals, semi-professionals and white-collar workers whose annual household income ranges £25,000 to £50,000; the minority have children and they tend to prefer package holidays (MOSAIC, 2004).

The demographic profile of travel e-shoppers shows results that are consistent with many previous studies in terms of gender, age, occupation, education and household composition. Through MOSAIC segmentation, the travel e-shoppers, who were mostly from the Ties of Community and Happy Families groups, have matched the profiles of the two groups suggested by MOSAIC (2004). Similarities are found in terms of age group, occupation, education and household background. Further, the current findings are also parallel with those of Aqute Research, UK (2004) in that the household income of online shoppers is found to be between £ 25,000 and £ 49,999.

The travel e-shoppers' profile revealed no significant difference from the general e-shoppers' profile, as suggested by Shim and Drake (1990), who reported that, regardless of product category, online shoppers tend to be characterized as higher in educational level, female,

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[1] The Ties of Community group is related to Package holidays; Close knit communities; Family close by; Older houses; Small industrial towns; Takeaways; Traditional Children; Young couples.

[2] The Happy Family group is related to Cable and Sky TV; Internet; Corporate careers; Low unemployment; Good prospects; Kitting out homes; Modern homes; Good education; Young couples.

older and ranging from their 30s to their 50s. On the other hand, Douthu and Garcia (1999) found that those who were actually shopping online were older and more affluent Internet users, who had a higher purchasing power and easier access to credit cards, while younger consumers used the Internet for information acquisition only. Meanwhile, Mathwick et al. (2002) reported that online shoppers, compared to catalogue shoppers, appeared to be younger than 44 years of age, well informed or educated and more affluent (with typical household incomes exceeding £ 43,000).

As e-shopping becomes more common in the UK and Europe, the number of women shopping online shows a corresponding increase, although male consumers were known as early adopters of e-shopping (Asch, 2001). This pattern is also found in the US, where about 50 percent of e-shoppers are female (McIntosh, 2001). A survey by Shop.org (2002), which found that 61.5 percent of women in the UK who have children adopt e-shopping, indicates a dissimilar pattern to the profile of the current sample of travel e-shoppers, who are mostly couples without children under 18. This is expected due to the types of product purchased online. It is easier for couples to find online travel service offers that could match their needs and wants as compared to large families. This might discourage large families from conducting travel e-shopping. However, BURST (2005) supports the findings on gender, finding that women are more likely than men to make an online purchase of a travel product.

This overall finding confirms the results of previous research that e-shoppers are female, young to middle age, educated, on high incomes with high purchasing power. In simpler terms, they could be identified as 'Yuppies' (short for Young Urban Professionals), which refers to a demographic of people comprising baby boomers[3] as well as people in their late twenties and early thirties. Yuppies tend to hold jobs in the professional sector, with incomes that place them in the upper-middle economic class (Wikipedia, 2006). This finding also validates the profile of e-shoppers not only for travel services but also for online products in general.

Shopping Patterns

With regard to e-shopping patterns, the results indicate that the majority of travel e-shoppers are regular and experienced Internet users and search for travel information more frequently than other Internet users. The majority have adopted travel e-shopping for the past 1 to 4 years. Thus, it is observed that e-shoppers who are familiar with Internet usage are more likely to adopt the Internet for shopping. This supports Citrin et al. (2000), who

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[3] A baby boomer is someone who is born in a period of increased birth rates, such as those during the economic prosperity that in many countries followed World War II. In the United States, it is identified with birth years between 1946 and 1964.

found that higher levels of Internet usage were more likely to lead to the adoption of the Internet for shopping purposes. The finding also indicates that e-shoppers rely on comprehensive product information and comparative pricing to facilitate their purchase decisions, which they obtain from information searching. However, only a small percentage are frequent travel e-shoppers, who have shopped online for travel services more than eight times per year. The majority of the e-shoppers shopped for travel services approximately once to four times a year, based on seasonal factors. These frequent e-shoppers are amongst the early adopters who portray more positive attitudes towards e-shopping and are also regular Internet users (see Chapter 6). This finding supports Kavanagh (1999), who contends that online purchasing remains a minority interest among UK e-shoppers. People are enthusiastic about the technology, but are cautious about using it as a retail format.

Despite the shopping frequency, the majority of e-shoppers shop for accommodation and flight tickets compared to other types of travel services such as vacation packages, coach tickets or ferry tickets. This is due to the ease of description and commodity-like nature of many travel services (i.e. hotels and flights), which favour the adoption of e-shopping (Lewis et. al., 1998). It is also found that e-shoppers prefer to shop from Web-based travel agents such as *Expedia.co.uk, Lastminute.com, E-bookers.com*, etc as well as from companies' website such as such as airlines and hotel chains (e.g. *Easyjet.com, Marriott.com, and Travelodge.co.uk*).

In terms of choice of travel shopping websites, most of the e-shoppers prefer websites that offer various travel products to compliment the services they purchase. This is similar to the concept of 'shopping under one roof', which provide all sorts of conveniences to customers. However, it is found that the e-shoppers also prefer to book from companies' websites. This may indicate brand loyalty to certain familiar brand such as *BritishAirways.com* or *Holiday Inn.co.uk*, and also price consciousness, enabling them to get much better offers. This finding is consistent with the focus group results where the respondents indicate that through direct booking, they gain more confidence in both transactions and travel services, and sometimes even receive better prices when purchasing directly from the companies' own websites, such as *RyanAir.com* and *EasyJet.com*.

The research findings also indicate that the e-shoppers who shop for travel services also purchase other type of products via the Internet. Across all thirteen product categories listed in the survey, Entertainment (Music, Videos, CDs, DVDs etc) remains the most popular category. Books and magazines come in a close second, followed by gifts or flowers. This result shows that the e-shoppers have adopted e-shopping not only for travel services but

also for other products, for which, in some cases, they shop more frequently. This indicates that shoppers who have been purchasing online are eager and more likely to purchase new product categories online (Silverstein et al., 2001) due to their previous purchase satisfaction.

General Issues and Concerns in E-shopping

Finally, based on e-shopping experience, the e-shoppers have highlighted several concerns and issues. First, the findings show that e-shoppers are more interested in getting better deals or competitive pricing: this is their main reason to shop online. This may be a possible advantage to e-marketers as more suppliers are able to compete in an electronically open marketplace (Turban et al., 1999), as a result of reduced selling prices due to the competition and a reduction in operational costs (Brynjolfsson and Smith, 2000).

Second, apart from pricing, the findings indicate that most e-shoppers value the convenience and time saved by e-shopping. This result is also consistent with the outcome of the focus group interview conducted in the exploratory stage. As consumers now are busier than ever, more mobile, more affluent, and increasingly impatient with routine time-consuming tasks, people are drawn to convenience, in keeping with the results of the study. Several previous researchers have also found that convenience and competitive price or sales promotions play the most significant roles in predicting intentions to revisit Web sites (Chiger, 2001; Supphellen and Nysveen, 2001).

Thirdly, the e-shoppers also demonstrate serious concerns about online security and privacy, which seems to be the most common reasons for reluctance to buy online. In particular, security issues generally revolve around the transfer of personal and financial information (for example, addresses, telephone numbers, credit card numbers, etc.) over the Internet. Security and privacy have been central issues in e-shopping, and many studies have consistently found similar results. According to Shim et al. (2001), transaction services such as payment security, privacy, safety, product guarantees and minimal cost/time for return affect intentions to use the Internet for purchasing, while Yoon (2002) found that transaction security was the most important antecedent of online purchase intention with a mediator of trust or Web-site satisfaction.

Privacy concerns relate to the use of online consumer demographic and personal information. E-marketers gather this information and can use it to target customers or sell it to marketing firms for marketing analysis. However, this sometimes occurs without asking the consumer if they would like to opt out of this data collection. The implications and contributions of the profile of travel e-shoppers are presented in subsequent sections. The

next section proceeds to answer the second research question in relation to the hypotheses results.

8.1.2   Research Question 2

Do perceived ease-of-use and perceived usefulness influence the adoption of travel e-shopping?

How do the variables affect e-shoppers' decisions with regard to adopting e-shopping?

This research question was divided into seven related hypotheses paths as listed below:

	Hypothesis Paths	Results
H1	Perceived Ease-of-use➔Perceived Usefulness	Supported***
H2	Perceived Ease-of-use➔Perceived Risk	Rejected
H3	Perceived Ease-of-use➔Trust	Supported***
H4	Perceived Ease-of-use➔Adoption	Rejected
H5	Perceived Usefulness➔Adoption	Supported***
H6	Perceived Risk➔Perceived Usefulness	Supported**
H9	Trust➔Perceived Usefulness	Rejected

Note: ***$p<.001$; **$p<.01$

Perceived Usefulness (PU), Perceived Ease Use (PEU) and Adoption

In answer to the research question above, the study found that PEU did not influence the adoption of travel services (H4) but PU did (H5). Although PEU was found not to be significantly related to the adoption of travel services, it had an indirect impact on adoption through PU (H1). This validates Davis' argument that ease-of-use may act on behavioural intentions indirectly through PU (Davis, 1989; Cooper, 1994; Szajna, 1996; Pavlou, 2001). It indicates that unless users perceived e-shopping as being useful, ease-of-use has no effect on the adoption decision. This implies that the ease-of-use of e-shopping, which relates to individual skills, website navigation, online support and perceived complexity of e-shopping, has more significant effects on the PU rather than on the adoption of e-shopping.

As predicted, PU was positively correlated with the adoption of travel e-shopping and PEU. The results validate the postulation in the TAM that PU is positively related to PEU and behavioural intention (Davis, 1989). This relationship is expected, as many previous studies have found the same effects of PEU on PU and behaviour intention (e.g. Mathieson, 1991; Adams et al., 1992; Igbaria et al., 1995; Agarwal and Prasad, 1997; Gefen and Straub, 1997; Yousafzai et al., 2005). **The result suggests that PU is a major determinant of travel e-shopping adoption (see H5). It demonstrates that ease-of-use does not**

engender e-shoppers' decisions to adopt travel e-shopping. Instead, e-shoppers will use travel e-shopping resources that are perceived to be useful and to have easy-to-use interfaces. Both PEU and PU will generate favourable feelings towards using travel e-shopping, leading to greater likelihood of adopting travel e-shopping.

PU, PEU and Other Constructs

As many previous studies have found that PU is easily affected by various external variables over and above PEU (Davis, 1989; Gefen and Straub, 1997; Chau and Hu, 2001; DeLone and McLean, 1992), this study has proposed that trust and perceived risk (PR) may influence the PU and PEU of travel e-shopping (H2, H3, H6 and H9). The results revealed that only PR directly affects PU (H6), while Trust affects PU indirectly through PR (see RQ3). This implies that the greater the concerns for privacy, security, and e-tailers' trust an e-shopper perceives in the Internet shopping transactions, the lower the usefulness of Internet shopping will be for that e-shopper. In this context, it is believed that consumers' PR would decrease their usefulness and ultimately discourage consumers from adopting Internet shopping (see Jarvenpaa et al., 1999).

Despite the insignificant relationship between trust and PU, PEU is found to positively influence the level of trust (H3) but not to influence the PR associated with travel e-shopping (H2). This outcome denotes that if a consumer sees e-shopping as an easy task that is user-friendly and involves relatively little effort, the trust in conducting e-shopping transactions will increase; nevertheless, it does not reduce the consumer's risk perception with regard to the transaction. This finding contradicts previous TAM studies where, intuitively, in adopting a new technology such as e-shopping, user perceptions of ease-of-use are likely to affect risk perception (e.g. Oliver and Swan, 1989; Patterson et al., 1997). However, H3 supports the previous studies relating to PEU and trust relationship (e.g. Hoffman et al., 1999; Yoon, 2002; Gefen et al., 2003; Pavlou, 2003). This study found that repeat customers trusted web retailers more, perceived the websites to be more useful and easier to use, and were more inclined to purchase from them. **These results suggest that the ease-of-use of e-shopping is able to build up trust as well as increasing the PU of travel e-shopping. Thus, PU and PEU have been demonstrated to be fundamental determinants of consumer technology adoption behaviour.**

8.1.3 Research Question 3

Do individual characteristics influence the adoption of travel e-shopping?

How do these variables affect e-shoppers' decisions with regard to adopting e-shopping?

This research question was addressed by five related hypotheses paths as listed below:

	Hypothesis Paths	Results
H11	Consumer Involvement➔Adoption	Supported*
H12	Consumer Involvement➔Trust	Supported**
H13	Consumer Involvement➔Perceived Risk	Supported**
H14	Consumer Innovativeness➔Adoption	Supported***
H15	Opinion Leadership➔Adoption	Rejected

Note:***p<.001;**p<.01; *p<.05

Consumer Innovativeness and Adoption

Most individual characteristics are found to influence the adoption of travel e-shopping as well as other constructs that are related to e-shopping. Consumer innovativeness has the greatest positive relationship with e-shopping adoption (H14) ($R2=.42$) compared to consumer involvement (H11) ($R2=.13$). The positive effect of consumer innovativeness on e-shopping is in line with other studies reporting that people with more innovative attitudes have higher degrees of new technology adoption (e.g. Rogers, 1995; Schillewaert et al., 2000). In this study, consumer innovativeness actually refers to domain-specific innovativeness, which, it has been argued, is a more powerful predictor of a specific innovation (Schillewaert et al., 2000). Thus, innovative shoppers are expected to comprehensively use the e-shopping medium and are more likely to engage in web features such as chat rooms, register as members, post reviews, use guest-books etc. when shopping for travel services online. **The direct relationship between consumer innovativeness and adoption explains that individual traits are as important as perceived benefits (i.e. PU) in making an individual adopt new technology.**

Consumer Involvement and Adoption

In H11, consumer involvement signifies a positive relationship with travel e-shopping adoption. This finding is justified, as the use of web activities has been found to be dominated by searching or deliberation behaviour, which leads to high involvement levels (Singh and Dalal, 1999; La Ferle, et al., 2000; Moe and Fader, 2001). Consumer involvement with a product depends on the personal relevance of that product (Celsi and Olson, 1988; Park and Hastak, 1994). Thus, it signifies long-term interest in a domain (Bloch, 1981) and this plays a central role in the adoption of e-shopping. In this case,

marketing communications, ease-of-use (navigability and usability), personalization and the customisation of website interfaces are vital, as they might lead to increased involvement levels and finally to the adoption of e-shopping. **The direct effect between consumer involvement and the adoption of travel e-shopping indicates that consumer involvement is an essential contributor to the adoption of travel e-shopping, alongside PU and consumer innovativeness.**

Opinion Leadership and Adoption

In H15, the findings suggest that there is no significant relationship between opinion leadership and the adoption of travel e-shopping. This result is expected, as opinion leadership is found to have a very strong correlation with consumer innovativeness, which, as noted earlier, has demonstrated a strong effect on e-shopping adoption (H14). Chan and Misra (1990) suggested that opinion leadership is an important descriptive personal characteristic of innovators. Since opinion leadership may be an indication of innovativeness, opinion leaders may be created from early adopters to persuade later adopters to try new products or services (Chan and Misra, 1990). To some extent, one may say that the innovators also tend to be opinion leaders. **In spite of the insignificant role of opinion leaders towards adopting travel e-shopping, e-marketers may need to consider the role of opinion formers in influencing Internet users' decisions to adopt travel e-shopping.**

Consumer Involvement, Perceived Risk and Trust

In H12 and H13, consumer involvement demonstrates positive effects on both trust and PR with regard to travel e-shopping. As previous researchers have discussed, consumer involvement is revealed to play a prominent role in explaining both trust creation and customer retention (Teichert and Rost, 2003). Similar to previous studies (Park and Lessig, 1981; Dawar and Parker, 1994 and Heilman, et. al, 2000), consumers with low product involvement are likely to perceive higher risk in relation to lesser-known brands than to well-known brands and to rely on extrinsic cues, such as brand name, price and physical appearance, to perform product evaluations. **This result implies that the more consumers are involved in their e-shopping processes and activities, the more trust they are likely to have in the new shopping channel. Additionally, the more shoppers are involved with travel e-shopping, the less risk they are likely to perceive in relation to this medium.**

8.1.4   Research Question 4

Do perceived risk and trust influence the adoption of travel e-shopping?

How do perceived risk (PR) and trust affect e-shoppers' decisions with regard to adopting e-shopping?

This research question was addressed by three related hypotheses paths, as listed below:

Hypothesis Paths		Results
H7	Perceived Risk➔Adoption	Rejected
H8	Trust➔Perceived Risk	Supported***
H10	Trust➔Adoption	Rejected

*Note:***p<.001*

Trust, Perceived Risk and Adoption

The findings indicate that neither PR nor Trust has a direct influence on travel e-shopping adoption (H7 and H8). This was unexpected, as many previous empirical results have emphasised the importance of trust and risk in explaining and predicting online purchase behaviour (e.g. Jarvenpaa et al., 2000; Van Der Heijden et al., 2003). Further, McKnight et al. (2002) and Gefen et al. (2003a) have demonstrated that trust and perceived web risk each independently affect consumer adoption decisions. However, as discussed earlier in H6 and H9 (see RQ2), it is found that PR and Trust affect the adoption of travel e-shopping via PU.   This might be due to the feeling of insecurity about the exposure of privacy, personal information, and financial information (Grazioli and Jarvenpaa, 2000) when conducting travel e-shopping.

Although the influence of trust and risk on e-shopping indirectly affected the adoption decision, this could be explained by indicating that a trustor will still engage in risky activities such as e-shopping once the level of trust overwhelms the PR (McKnight et al., 1998; Friedman et al., 2000). Higher levels of structural assurance may assist consumers in overcoming the fear of e-shopping in general, and increase their levels of trust in a particular web site.

As highlighted by many studies (Jarvenpaa et al.,2000; Friedman et al., 2000; McKnight et al., 2002), the critical role of trust is still an important area in the domain of e-commerce. Consumers could overcome their fear, derived from PR or the uncertainty of e-shopping, by building up trust in a web site, or even in the entire e-shopping environment. This notion has been found to support H8, where trust in travel e-shopping has negatively affected PR. **The more trust e-shoppers have in travel e-shopping, the lower their risk perception**

will be. Subsequently, if e-shoppers have low perceptions of risk related to e-shopping, they will appreciate the usefulness of e-shopping more and as a result will be more likely to adopt travel e-shopping.

8.1.5   New Findings

Based on the SEM analysis (see Chapter 7, Section 7.3.6), three new relationships were found in the model, which are presented as follows:

(1)   Consumer Involvement and Perceived Ease-of-use

> **There is a positive relationship between Consumer Involvement and the Perceived Ease-of-use of travel e-shopping.**

Firstly, a new relationship was found between Consumer Involvement and the Perceived Ease-of-use (PEU) of travel e-shopping. This link explains that the more involved e-shoppers are in travel e-shopping, the less complicated they see it as being. As discussed in Chapter 3 (see Part 2), PEU relates to the intrinsic features of the technology, such as whether it is easy to use, easy to learn, flexible or free of effort (Davis, 1989). Essentially, this new link means that the perception of simplicity of travel e-shopping depends on the e-shoppers' involvement, which is based on their inherent needs, values and interests (Zaichkowsky, 1985). In e-shopping, information retrieval is interactive, and interaction requires both the user and the system play different roles in performing different tasks (Beaulieu, 2000); thus, this affects the users' involvement levels. This link suggests that the simplicity of shopping via the Internet is based on how much involvement is needed to engage with the systems. **In conclusion, this new finding contributes to the TAM by showing that whether consumers perceive a new technology as an easy task depends on their personal characteristics (i.e. consumer involvement and opinion leadership).**

(2)   Opinion Leadership and Perceived Ease-of-use

> **There is a positive relationship between Opinion Leadership and the Perceived Ease-of-use of travel e-shopping.**

Secondly, another relationship found is between opinion leadership and PEU of travel e-shopping. Although opinion leadership is found not to affect consumer adoption of e-shopping (see RQ3, H15), it actually has an indirect influence on consumer adoption via

PEU and PU. **The new opinion leadership–PEU link is considered as a new addition to the TAM as a very limited study extending the TAM to opinion leadership characteristics.** However, this new finding is reasonably acceptable, since many studies have indicated that Davis' (1989) PU and PEU are conceptually similar to Rogers' (1995) relative advantage and complexity, which ultimately influence consumer adoption (Davis, 1989; Moore and Benbasat, 1991; Karahanna et al., 1999). Accordingly, opinion leaders, who have two basic characteristics - 1) knowledge about a particular domain of issues or products, and 2) ability/intention to communicate with others (see Chapter 3, Section 3.4.2), - certainly view travel e-shopping as an easy task and compatible with them. This argument corresponds with Rogers' (1995) profile of early adopters, in that opinion leadership is one of their traits. As describe in previous chapters (see Chapter 3 and 4), early adopters, who are amongst the earlier groups of consumers to adopt new technology, perceive the new technology as an easy task. Explicitly, PEU decreases when people lack opinion leadership qualities, and eventually decelerates the adoption of travel e-shopping. **Similar to the first path, this new path extends the PEU construct of the TAM through consumer characteristics (i.e. consumer involvement and opinion leadership).**

(3)   Consumer Innovativeness and Trust

> **There is a positive relationship between Consumer Innovativeness and Trust in travel e-shopping.**

Finally, a third new relationship has been found between consumer innovativeness and trust in travel e-shopping. This link explains that the more innovative characteristics e-shoppers have, the more likely they will be to trust travel e-shopping. Some consumers are naturally attracted by any novelty: new products, new services, new ideas, new selling techniques or new payment modes. They are usually called innovators (Kirton, 1976 & 1980; Foxall, 1986 & 1984). As described in previous chapters (Chapters 3 and 4), consumer innovativeness is often described as the psychological trait characterising those consumers who adopt new products and ideas, who tend to be venturesome, eager to live new experiences, always seeking new sensations, and in search of everything new and different (Roehrich, 2004). Therefore, in some ways, these traits demonstrate that e-shoppers are more trusting (Donthu and Garcia, 1999) as compared to non-Internet shoppers. Hence, e-shoppers who appear to be innovators perceive e-shopping as trustworthy. This finding lends credence to Hoffman and Novak (1997), Donthu and Garcia (1999), Kim and Prabhakar (2000) and Jarvenpaa et al. (2000), who convincingly anticipated the profile of e-shoppers, including trust and innovative traits. Accordingly, Mayer et al. (1995) suggested that a web trust model also needs to include consumer innovativeness as one of the dimensions in understanding the adoption of e-commerce.

Thus, this new relationship link is acceptable, hence contributing to the literature on the theory of e-trust. In conclusion, it is suggested that all three new relationship links found in this study should be tested in different contexts of online activities (e.g. Internet banking, TV shopping etc) to see whether the findings are consistent.

8.2 Research Implications and Suggestions

8.2.1 Practical Implications

The following implications and suggestions are recommended for web travel retailers or tourism practitioners:

E-shoppers' Profile

This study provides salient implications for e-marketing strategies for travel services. As the main focus of this study was to understand the profile of travel e-shoppers, several implications for practise have been noted. First, the profile of travel e-shoppers presented in Section 8.1.1 indicates that most UK travel e-shoppers are yuppies, female, educated, in couples and affluent. This information is useful to at least guide travel e-tailers to define their target markets. This profile is an important source, enabling marketers to plan suitable offers for specific groups or to launch new products. The continued increase in women's presence on the Web is shifting the focus of e-retailers to market products that women are more likely to buy, such as home furnishings, apparel, jewellery and gifts (Allen, 2001; Chiger, 2001; Elkin, 2001).

Second, the demographic and geodemographic profile of travel e-shoppers could also be used for fine-tuning market segmentation and positioning strategies while emphasizing the benefits offered by the e-tailers' websites to the e-shoppers. A more personalised marketing promotion may attract e-shoppers, as they are more likely to make impulsive purchase decisions if the new product is of particular interest to them (see Berry, 1986; Raymond and Tanner, 1994). Further, customisation and personalisation are also vital in online relationship development. As consumers' needs and demands are different depending on their lifestyles and demographic backgrounds, personalised services or messages for different groups (e.g. older people, families, young or handicapped persons) are important in attracting them to use e-shopping. Evolving patterns of individualisation in society have shown that customers increasingly demand personalised offers that are based on their needs, tastes and lifestyles. Thus, travel retailers need to promote the flexibility of their online services, for instance, by encouraging consumers to use DIY[4] tools to find the

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[4] DIY=Do it yourself or tailor made services

best package for them or promoting customised offerings that are dedicated to specific segments such as wedding packages and students' packages, which will ultimately increase shoppers' satisfaction with their travel planning.

Third, the length of Internet usage, the frequency of shopping and the intensity of searching for travel information are found to be related to e-shoppers' profiles. These people are mostly well versed with technology, price sensitive, and look for differences due to their active web searching. Thus, it is important that travel e-tailers adopt a more advanced e-marketing approach to maintain their competitive advantage. E-marketing approaches such as loyalty or membership programs, e-vouchers, cash-back schemes or referral programmes might be able to encourage repeat purchase or word-of-mouth from this group. However, with the rapid diffusion of the Internet as well as social and economic changes, less educated and low income populations may all have access to and become gradually more familiar with the Internet.

Ultimately, by understanding the profile of e-shoppers, e-marketers would be able to design strategies that influence Internet users to change their behaviour from Internet searching to Internet shopping. Further, these strategies need to include user-friendly purchasing processes to ensure success during initial purchasing attempts as well as measures to increase consumers' trust. Conversely, traditional retailers, who are more familiar with offline shoppers' profiles, would also want knowledge of the new market population in order to retain their market and regain market share through e-commerce.

Consumer Innovativeness and Adoption

Innovativeness is an individual level construct that measures a person's reactions to the new and different (Goldsmith et al., 2003). The level of consumer innovativeness could presumably help marketers to identify early adopters of their products.

This is very important to e-tailers in two respects. Firstly, early adopters contribute to the initial sales of a new product or service. Secondly, these early adopters provide important word-of-mouth communication about the new product/service to later adopters.

As consumer innovativeness is positively associated with the adoption of travel e-shopping, travel e-tailers need to target consumers who have a general innovative attitude in the domain of IT. This would greatly benefit the technology diffusion process within society. Not only will these shoppers accept Internet technology more thoroughly; they are also important advocates and will spur the e-shopping adoption process among their peers (Agarwal and Prasad, 1998). In addition, innovative shoppers appear to understand the

benefits and master the use of IS more quickly than shoppers who are resistant to IT. Travel e-tailers should use the consumer innovativeness variable in several phases throughout the e-marketing process: for example, to segment e-shoppers and approach these potential shoppers differently.

The travel e-tailers may want to develop means by which they can nurture Internet-related innovativeness among e-shoppers. For example, marketers can create Internet sites that facilitate and reward exploration and thereby influence the Internet users to become more domain-specific innovative. This in turn should lead them to undertake more e-shopping.

Finally, the findings also lead to some important implications for e-marketers in their efforts to better understand their customers and formulate marketing strategies. While consumers who are purchasing products over the Internet may not be considered as innovative in the broadest sense of the term, they are definitely more innovative in the domain of the Web. To capture this group of customers, companies need to evaluate the feasibility and the means of expending marketing expenses on Internet marketing.

Consumer Involvement and Adoption

It is found in this study that consumer involvement has a direct influence on the adoption of travel e-shopping. This shows that involvement is vital, as it stimulates purchasing behaviour. Therefore, online marketers should create various stimuli to encourage consumers to be involved in web searching and shopping. Firstly, e-tailers could create incentive programs to capture new customers or to retain existing customers on their shopping sites, especially given that travel e-shoppers tend to bookmark their favourite sites and revisit them for information searching and entertainment as well as for multiple transactions (Reichheld et al., 2000). From this perspective, incentives such as first-time buyer discounts and reward programs for frequent visitors can not only sustain e-loyalty, but also convert a newcomer who visits the site only to seek information into a regular customer.

Secondly, there are also many creative ways to get consumers involved in the shopping process, such as through web interactive features or promotional offers. For instance, *Ryanair.com* is continuously offering cheap flights tickets (i.e. £0.99 for a one-way flight) for online booking only, limited on a first come first served basis. This effort has stimulated interest, getting many people involved in e-shopping by encouraging them to visit the website regularly. Discussions of the website design and features are presented in the subsequent section.

Thirdly, the most important and recommended method of enhancing consumer involvement in e-shopping is through the integration of online and offline marketing approaches. Despite the potential of the Internet as a communications technology and research tool, which may be used by travel marketers in order to gain a competitive advantage, it is important for companies to realize that the Internet, by itself, is not a self-supporting mechanism (Kotler et al., 1996). Internet marketing efforts are unavailable to a large percentage of the world's population, and it would be irrational to market solely on the Internet. Thus, any Internet marketing activities should provide additional exposure and should complement traditional marketing efforts (and vice versa) (Mathiesen, 1995). The Internet should become an integrated and complementary element of the entire marketing mix (Kotler et al., 1996). Marlow (1997, p. 82) stated:

> "Internet advertising will not suddenly do away with traditional advertising, marketing and public relations. The traditional advertising and interactive advertising worlds will coexist for some time. The best values from Internet advertising will be realized by combining Internet advertising with traditional marketing."

Alternatively, Sterne (1995, p. 8) stated that, "...you must advertise that you're advertising...", which implies that web retailers should not rely solely on online marketing. Potential travel shoppers must be made aware of the online offers, and must be provided with a compelling reason to visit the websites. This approach has been executed by many online travel retailers, such as Lastminute.com, Expedia.co.uk and HavenHolidays.com, which use television to advertise their web offers with an aim to draw viewers' attention to their websites.

Perceived Usefulness, Perceived Ease-of-use and Adoption

It is evident from this study that in order to convert Internet browsers into e-shoppers, the PU and PEU of e-shopping must be enhanced. The results suggest that a technology's usefulness is the key to e-shoppers' adoption of e-shopping. Although technical usability and user friendliness are important for adoption, the primary concern in making people adopt new technology is whether they consider that the technology provides benefits for them. This result suggests several practical implications for web travel retailers.

Firstly, as discussed previously, travel retailers should understand that consumers perceive e-shopping as useful because it allows home shopping, avoids shopping hassles, provides greater choice, enables shoppers to find and compare products and prices, makes it possible to shop 24/7, and provides product customisations and cheaper prices. Travel

retailers need to understand these motivations and emphasise the benefits in their marketing communication. From time to time, retailers should expand the benefits by offering additional facilities and services such as online order tracking services, free trials, online prices etc. This could extend the PU of e-shopping, which would eventually influence consumers' decisions to adopt.

Secondly, travel retailers should promote the simplicity of e-shopping through their website design and online support. In designing a travel website, e-tailers should pay attention to ease-of-use, user-friendliness and ease-of-navigating in order to enhance people's perceptions of the website's usefulness, which will increase people's intention to make use of the service. In providing a user-friendly shopping environment, websites should be tailored more effectively to meet the needs of users based on skill levels. For example, websites should have alternative gateways based on connection speed, as well as customized features based on identified skill levels. Skilled users should be provided with detailed informational content using multiple media. A discussion of website design and features is presented in a subsequent section.

Thirdly, to enhance the usefulness and ease-of-use of e-shopping, web retailers should be proactive and responsive in providing as much benefit as possible to customers. Responsiveness is a key consumer issue when shopping on the web (Jarvenpaa and Todd, 1997). Zeithaml et al. (2002) argued that this construct relates to responses from e-tailers, when consumers have questions or run into problems, such as whether the website can provide prompt service, helpful guidance and accurate information about the products or services. Watson et al. (1998) referred to responsiveness as willingness to help customers, and it can be measured by the time taken before replying to a customer's enquiries. Evans and Wurster (2000) and Shapiro and Varian (1999) suggested using feedback features and functions, as well as providing the customers with access to previously asked questions to enhance their e-shopping experiences. This provides the customer with greater control over the marketing process than ever before and increases the need for attention to great customer service (see Kotler et al., 1996; Venkatesh, 2000).

Risk, Trust and Adoption

As noted earlier, risk and trust have an indirect impact on consumers' decision to adopt e-shopping through PU. Privacy and security are very much related to the topic of trust and risk in e-shopping, as personal data are processed when making orders or reservations. Below are some implications to e-tailers in pursuing their e-marketing strategies.

First, with the increasing use of transaction systems, confidentiality and security have become vital criteria in determining the shoppers' decision to adopt online purchasing. Werthner and Klein (1999) suggested three issues related to risk and trust which have to be considered by e-marketers when dealing with online transactions:

i. Integrity and authorization: money must not be taken away from the shopper without some form of authorization, such as a password or signature. In both cases, the information has to be protected through various means such as Secure Socket Layer (SSL), which uses public key signatures for secure communication over the Internet.

ii. Confidentiality: the restriction of knowledge about the identity of parties involved in a transaction, the content of the purchase or the amount transferred. In addition, anonymity is desired and transaction shall not be traceable.

iii. Availability and reliability: all parties require the ability to make a transaction whenever they want. The payments should be invisible to both parties but certainly reliable.

Second, as consumers today are easily irritated by unwanted and unsolicited communications via the Internet, they are less likely to purchase products from the senders' websites. For instance, spam e-mail is found to be ineffective in attracting consumers to visit a website, as consumers are likely to disregard any prompts to purchase unless contact can be established through legitimate means. This implies that travel retailers should be more careful and selective in executing e-marketing strategies and tactics. Thus, it is suggested that travel retailers should consider the permission marketing[5] strategy, which appears to be very appropriate in the online marketing context. It is a more efficient use of company resources because advertisements are not sent to people who are not interested in the product.

Thirdly, it is known that e-shoppers are likely to purchase from a web retailer that is perceived to be low-risk, even if the shopper's PU and PEU are relatively low (Jarvenpaa et al., 1999). Thus, diminishing such risk is considerably important to web retailers. More specifically, online transaction issues (i.e. credit card security, privacy assurance, access to a major credit card and information on the reliability of the seller) and low cost (i.e. fast delivery time, cheaper than high street agents, no extra charge and money-back guarantees) play important roles in e-shopping for travel services. Therefore, establishing a risk-free image would seem to be a key strategy for e-tailers if they are to attract consumers to an e-shopping format. One possible approach is to encourage credit card companies to make consumer protection assurances in order to reduce consumers'

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[5] *Marketers will ask permission before they send advertisements to prospective customers. It requires that people first "opt-in", rather than allowing people to "opt-out" only after the ads have been sent.*

security and privacy risk. Consistently monitoring changes of customers' postal and e-mail addresses also allows e-tailers to ensure the accurate delivery of online purchases.

Finally, Customer Relationship Management (CRM) is one of the approaches that can be used to build a trusted relationship between e-tailers and e-shoppers. By keeping in touch with shoppers after sales have taken place (e.g. by sending courtesy e-mails), retailers could build close relationships with the shoppers, which would attract shoppers to revisit the retailers' websites in future.

Successful Website Design

The need to create an effective travel website can be explained using the AIDA (Awareness, Interest, Desire, and Action) model of marketing communications (Laws, 1991; Mathiesen, 1995). In this model, marketers attempt to influence consumers into gaining *Awareness* of a particular product or service, then to heighten the *Interest* in that product or service, then to instil a *Desire* to obtain the product or service, and eventually to convince the consumer to take the *Action* necessary to obtain it.

In creating a successful travel website, the first step is to create Internet users' *Awareness* of the website, and of the travel services available on the website. As mentioned earlier, this could be done by advertising through traditional channels, such as television, print ads, and by including the site address on all materials created by the company (Sterne, 1995). It is also possible to advertise the website through mass e-mailings. However, this requires tact, as many Internet users dislike unsolicited e-mail messages and may form a negative impression of a company that sends such a message. Alternatively, press releases sent to topical online discussion groups and forums may be well received if presented in a non-aggressive format to an appropriate group (Mathiesen, 1995). Furthermore, search engine optimisation (SEO)[6] may be used to increase the chances that a specific website will be listed at the top of the results when a user performs a search on a related topic.

Accordingly, to create visitors' *Interest*, a website should be easy to use, fun, dynamic, memorable, interactive and efficient (Bishop, 1996; Hurley and Birkwood, 1996). It should present a professional corporate image (Hurley and Birkwood, 1996), and that image should be valid, believable, simple, appealing and distinctive (Kotler et al., 1993). The

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[6] *SEO is a set of methodologies aimed at improving the visibility of a website in search engine listings. If a site is to be found, it must contain keyword phrases that match the phrases the target audience is typing into search queries. These keywords are determined by search engine spiders that analyze web page content and keyword relevancy based on an algorithm. Search engine optimization is the process of configuring a website to be more visible to its target audience.*

website should also establish the business and products' benefits to customers early in their visit (Hurley and Birkwood, 1996), so that their interest in the site will begin to develop right away.

Next, websites can help to generate the *Desire* for a product or service, by providing accurate, up-to-date (Marlow, 1997) and honest information about the product or service. In addition, a well designed website with a high-tech look may help to create desire simply by appearing to be on the leading edge (Sterne, 1995). Customers' questions should be anticipated (Hurley and Birkwood, 1996), and they should be provided with easy access to human contact in case they need further attention or details.

Finally, customers should be provided with clear and easy calls to *Action* within websites. They should have access to a simple, secure ordering and billing procedure or should be provided with contact information or a link if they need more information. There should also be an opportunity for customers to provide suggestions or feedback to allow for continual improvements to site content and future product offers. Marketers who are serious about providing a quality website need to be proactive in making a long-term commitment (Bishop, 1996), and then follow through by continually updating the site (Marlow, 1997).

An Effective Travel Website Interface

As described in Chapter 3, travel services are intangible, perishable, inseparable and heterogeneous, which make it difficult to market services on the Internet. A well-designed travel website may help alleviate a few of the problems related to these travel service characteristics. Firstly, the *tangibility* of travel services can be increased, as potential shoppers can be presented with an interactive, multimedia site that helps them experience the travel services. Although travel services are *perishable* (cannot be stored and sold at a later date), travel retailers can make shoppers aware of special offers or sales in order to help reduce the amount of travel services that perish.

Inseparability, the idea that the consumers' perception of the travel services is linked to the people and products providing the service, could be improved by utilising website capabilities such as space provided for customers' comments, suggestions, ratings, reviews and complaints. Through such feedback, travel retailers can learn where they are succeeding, and where they are failing, as far as their customers are concerned.

Heterogeneity relates to the fact that each shopper's experience will be different. This is not necessarily a bad thing. Many people travel in order to be different, and travel websites should be capable of providing a different interactive experience for each visitor. Travel websites must be well designed, up-to-date and relevant in order to encourage consumer

involvement while shopping via the Internet. The elements used in travel websites, such as maps, pictures, graphics and text, should be well designed and integrated. As Kotler et al. (1996, p. 536) illustrated:

> "...doing something cool or funny or unique, or having regularly updated information, giving any compelling reason for people to come to a company's site - that's what works on the Net."

The integration of the web elements into a marketing plan could enhance service quality and increase customer satisfaction. A poorly designed travel website or annoying Internet marketing practices may fail to attract shoppers, and can lead to a loss of repeat business, bad 'word of mouth' advertising or a poor reputation. In tourism marketing, the medium of communication may be as important as the message. With regard to this, numerous suggestions for designing an effective travel website could be adopted to enhance the image of the virtual store and attract more visitors.

First, as this study revealed that e-shoppers conduct frequent searches for travel information, which do not necessarily end with a purchase, the type of information presented within the website should be relevant to travellers. The site should offer all the information that might be needed by a traveller in order to plan a trip. Travel websites should include relevant information such as history, geography, climate, news, festivals, transportation links, places of interest and travel advice. The information within a travel website can be presented in a number of different ways, using a wide variety of elements. These include pictures, text, music, sound, tools, forms, questionnaires and advertising.

Second, other than website content, website navigation is also important. It should be clear how to proceed within the site. If a user cannot figure out where to click to get to further information, s/he will have no option but to leave the site completely. These criteria are particularly important for official tourism websites such as www.visitbritain.com, which need to portray a professional image to visitors. Figure 8.1 illustrates an example of a well-structured travel website.

Figure 8.1:   A Well-structured Travel Website

Source: http://www.visitbritain.com/
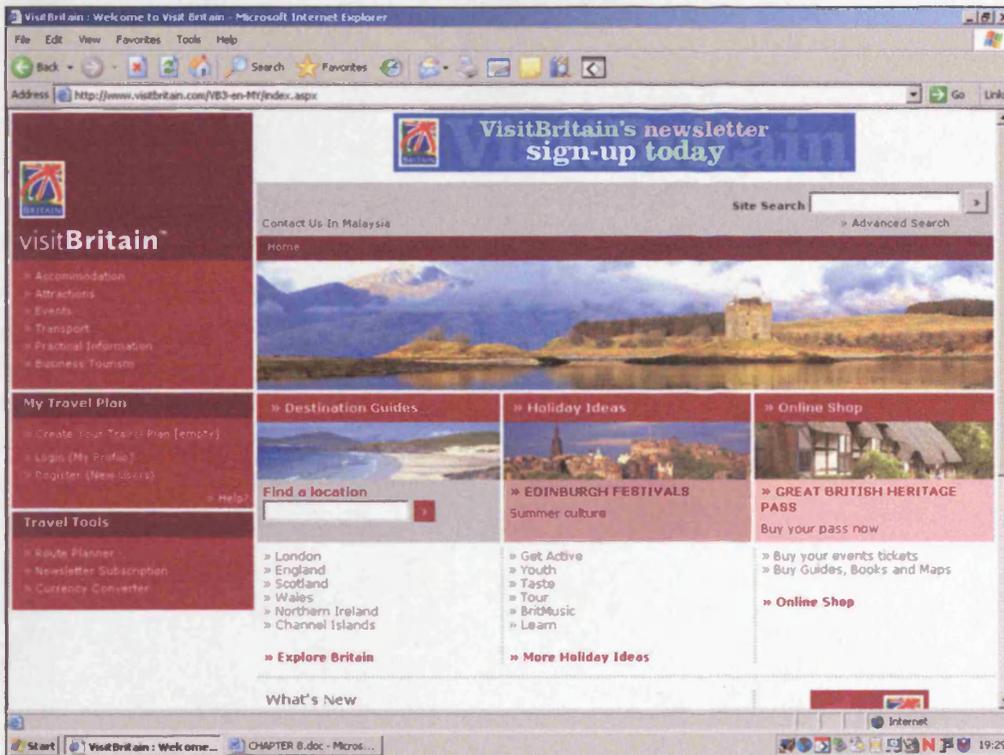
The website shown in Figure 8.1 above is considered as well organised: it consists of various information about Britain according to regions; depicts peaceful scenes of Britain; uses an attractive colour scheme; includes useful tools such as travel planners, routes, ideas, currency converters; it is not too cluttered and looks simple.

Third, as for the website elements, it is important that every item within the web site should add value. Each element should be used for a specific purpose, and should be well suited for its intended purpose. These elements should download as quickly as possible where necessary and/or possible, such as for maps or pictures. Longer downloading time should be avoided, unless the user can be convinced that it is worth a longer wait by offering useful, high quality items. If sounds are included, such as narration or music, they should be relevant to the website theme and should be optional. They should add to the overall experience of the site, and should relate to the information being presented. A description or thumbnail image should be included so the users know what they are downloading. Text is an important element of a website, as it is necessary for describing travel offers; nonetheless, too much text can be boring. It should be balanced with the other elements of the site, and should be legible.

Likewise, tools such as distance calculators, calendars, maps and currency converters are also useful elements of travel websites. A search tool should be available on a travel website as it makes it easier to find information within the site. As shown in Figure 8.2, the search tool for accommodation on the travel agent's website would be useful in enabling visitors to search for hotels based on their budget and preference. The search tools incorporate various options such as locations, star ratings, facilities required etc. There are also language options, which would be useful in allowing visitors from other countries to search for accommodation. Since most web users prefer to find information using only mouse clicks, web retailers need to provide complete options by reducing the typing requirements, such as providing drop-down menus from which to select a country or city.

On the other hand, while advertising on travel websites is common, it should be kept to a minimum. Pop-up ads, scrolling banners and flashing graphics are sometimes annoying, obtrusive, can crash systems and turn visitors off. Web advertisement should be tasteful, restrained and relevant.

Figure 8.2:   A Screen-shot of a Search Tool for Accommodation

Source: http://booking.totalstay.com/

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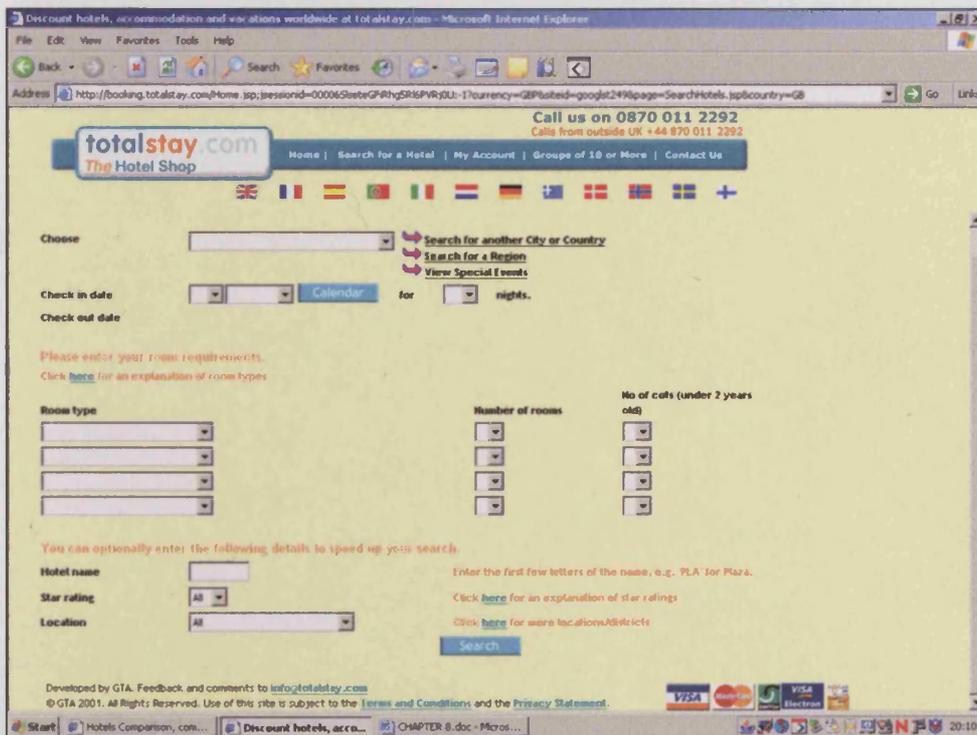
8.2.2   Theoretical Implications

Based on the findings derived from the final model of the adoption of travel e-shopping, the theoretical implications suggested are as follows:

Technology Acceptance Model (TAM)

This study provides further evidence of the appropriateness of using the TAM to measure the adoption of travel e-shopping. As evidenced from previous TAM studies, two specific behavioural beliefs (i.e., PEU and PU) explain the adoption of travel e-shopping well. This study also proves that the TAM strongly supports studies on consumer adoption of Internet technology. The results are in line with the overall findings across several studies in the information systems area (e.g. Davis et al., 1989; Adams et al., 1992; Venkatesh and Davis, 2000). The results reinforce the role of PU as the fundamental driver for the acceptance of Internet technology in shopping. Similar to previous findings, PEU is also important, but is a secondary driver of the acceptance of new technology (Davis et al., 1989; Venkatesh and Davis, 2000). It was found to affect the adoption of e-shopping indirectly through PU.

In addition, the results from this study have shown that other factors, with regard to individual characteristics such as opinion leadership, consumer involvement, consumer innovativeness, PR and trust, help to improve our understanding of e-shopping adoption. Therefore, in the e-shopping setting, the power of the TAM model will be greatly enhanced by taking into account the impact of individual characteristics, PR and trust.

Consumer Innovativeness

By going beyond the traditional TAM and including important external variables such as consumer innovativeness and involvement, this study provides a broader and richer understanding of e-shoppers' technology adoption. Although the issue of innovativeness has garnered interest among consumer marketing researchers (e.g. Midgley and Dowling, 1978; Steenkamp et al., 1999), empirical work focusing on the role of innovativeness in an online setting is still limited. This study contributes to filling this gap and shows that the consumer innovativeness of an individual shopper in the domain of Internet technology plays a key role in the adoption of e-shopping. The direct effect of consumer innovativeness on the adoption of e-shopping is interesting because the findings are slightly different from the theoretical assertions of the TAM. The findings indicate that the effect of personal characteristics on adoption is fully independent from the key beliefs in PU and ease-of-use. This implies that e-shoppers' adoption behaviour is not only determined by their instrumental beliefs, but also by their habits and general attitudes towards

information technology, which they bring to their decision processes. The central position of innovativeness is particularly remarkable in the e-shopping context because most people seem to have a natural prejudice against new technology. This reality seems to be confirmed by the results. In addition, the findings reveal a direct relationship between consumer innovativeness and trust. This indicates that e-shoppers who are also innovators have greater trust in new shopping technology as compared to less innovative shoppers.

Consumer Involvement

Consumer involvement occupies a central role in the research model, as it also has a direct effect on the adoption of e-shopping. Similar to consumer innovativeness, this finding provides a better understanding of another external variable of the TAM. The findings indicate that the effect of consumer innovativeness on adoption is not fully mediated by the key beliefs in PU or ease-of-use. The direct effect of consumer involvement on the adoption of e-shopping is remarkable because this implies that e-shoppers' adoption behaviour is also determined by their cognitive behaviour as well as their instrumental beliefs. Additionally, the findings have confirmed the mediating relationship between involvement and PEU. However, the influence of involvement on ease-of-use was found to be only marginal, as it depends on an Internet shopper's computer self-efficacy and the types of websites visited.

Opinion Leadership

The results provide no evidence for the fact that opinion leadership plays an important role in consumers' adoption of new technology. This may indicate that the effect of opinion leadership on adoption depends on shoppers' belief in the usefulness and ease-of-use of e-shopping. The fact that opinion leadership is strongly correlated with consumer innovativeness may also suggest that the effect of opinion leadership would be more significant if both variables were combined.

Perceived Risk and Trust

By including uncertainty variables (i.e. perceived risk and trust) in the research model, the current literature on the TAM has been extended. Through the incorporation of the two antecedents of uncertainty, PR and trust, the study provides a rich understanding of how consumers develop fear or distrust of e-shopping. The test results show that both links are insignificant to e-shopping adoption, which indicates that the effect of these two antecedents is totally mediated by TAM variables. The effects of these external variables in the model are consistent with TAM assertions. Plausible explanations for these findings

may be that PR and trust are primarily geared towards usability and usefulness in the initial stages of adoption.

In the case of PR, it affects consumer adoption through the PU of e-shopping, while PEU influences trust in e-shopping. On the other hand, the impact of PR on e-shopping also depends on the level of trust. Thus, the theoretical implication is that trust and PR can be regarded as a pair of opposing forces that shape consumers' decisions to adopt e-shopping. The finding suggests that the interaction between trust and PR is noteworthy in consumers' adoption of Internet technology. However, there was a discrepancy between the hypothesized model, which posited that the effects of PR and trust on e-shopping adoption would be a direct relationship, and the findings in the final model. Nevertheless, the data indicate that usefulness fully mediates this effect.

In conclusion, it appears that the TAM does not capture all the internal psychological variables through which external variables achieve their influence on user acceptance (Davis et al., 1989). In other words, there might be other mediators for the relationship between personal characteristics and acceptance aside from the TAM variables. However, given the numerous previous empirical tests of the TAM (e.g. Davis et al., 1989; Venkatesh and Davis, 2000; Yousafzai et al., 2005), these findings may point to the specific importance of personal characteristics for innovation in an online setting.

8.3   Conclusion

This discussion of the research questions explicitly clarifies several important issues on consumer behaviour in the context of the online market. The results demonstrate that personal characteristics are equally important as technological acceptance variables in influencing consumer adoption of travel e-shopping. On the other hand, perceived risk and trust also indirectly influence consumer adoption through the perceived usefulness and perceived ease-of-use of e-shopping. Interestingly, it was revealed that consumer innovativeness, consumer involvement and perceived usefulness are more influential than other factors in contributing to customers' adoption behaviour.

The following chapter will illuminate the pertinent results reported in this chapter with a view to presenting the study's contributions to theoretical, methodological and practitioners' perspectives. Then, limitations of the study and potential future research opportunities and directions will be presented.

CONCLUSIONS

"When business is great, growth and profits hide a multitude of sins."

– David Jones –
(Managing director, Next plc.)
– Marketing (12 October 1989) –

THE THESIS STRUCTURE

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The Tourism Industry

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Chapter Nine
CONCLUSIONS

9.0 Introduction

This final chapter aims to conclude the research effort by presenting a final discussion of the overall thesis chapters, followed by an examination of the research contributions. As it was recognised that to date, very limited research pertaining to Internet shoppers' behaviour in purchasing travel services has been undertaken and reported, it is therefore believed that the findings of this research could contribute some insights to the existing marketing literature and methodology, as well as enlightening practitioners in the tourism industry. This is followed by a discussion of the limitations of the study and suggestions for future research directions, and finally the overall conclusion of this study will be drawn.

9.1 Research Summary

The main objective of this research endeavour was to identify and examine the key determinants that influence consumer adoption of Internet shopping for travel services (also known as 'travel e-shopping'). In order to accomplish this objective, valid and reliable multidimensional measures had to be established and validated (Churchill, 1979; Ping, 2004). With this in mind, the measures were stringently assessed and validated by Item Analysis and Exploratory Factor Analysis (EFA), procedures suggested by Churchill (1979), and Confirmatory Factor Analysis (CFA), following the recommendation by Anderson and Gerbing (1988) (see Chapter 6 and 7). Therefore, it is reasonable to claim that the measures employed to test the hypothesised relationships among constructs, as postulated in the conceptual model, have successfully achieved unidimensionality, validity and reliability. Ultimately, the thesis' primary goal of generating a plausible model that could be characterised as having statistical and explanatory power (McQuitty, 2004), which permits the confident interpretation of results, was accomplished after minor modification to the proposed model (see Section 7.3.4).

This study was developed based on a broader conceptualisation of the consumer adoption process, which comprises the sequence of stages that individuals go through in the process of accepting new products. The stages vary greatly in usage, but tend to include (i) becoming aware of the new product, (ii) seeking information about it, (iii) developing favourable attitudes toward it, (iv) trying it out in some direct or indirect way, (v) finding satisfaction in the trial, and (vi) adopting the product into a standing usage or repurchase pattern (American Marketing Association, 2005). This conceptualisation is consistent with Kotler (1994) and Rogers (1962), who suggest that the stages of adoption are important; they are complicated,

yet related. Therefore, it was recommended that they should be further studied (Rogers, 1995; Lee et al., 2001; Vrechopoulos et al., 2001).

The Technology Acceptance Model (TAM) has been widely applied in the literature on consumer adoption of new technology (e.g. Tornatzky and Klein, 1982; Davis et. al., 1989; Moore and Benbasat, 1991; Venkatesh and Davis, 1996; Gefen et al., 2003a & 2003b) and is the theoretical foundation for the current study. The TAM was chosen as the basis for developing this study's conceptual model due to its consistent capability to explain a substantial proportion of the variance between behavioural intention and actual behaviour, as derived mainly from previous studies on the purchase of technology-related products (Davis, et al., 1989; Mathieson, 1991; Adam et al., 1992). In particular, the proposed model seeks to take advantage of the validity and reliability of perceived usefulness (PU) and perceived ease of use (PEU) in the TAM by adding other constructs in order to improve its explanatory and predictive power (Taylor and Todd, 1995; Igbaria et al., 1996; Jiang et al., 2000; Gefen and Straub, 2000; Yousafzai et al., 2005).

The importance of understanding consumer behaviour in the virtual market is widely acknowledged, particularly factors that influence consumers to adopt e-shopping, which has been the focal construct of this study. This study took the lead to advance research into customers' adoption of travel e-shopping by taking the new technology acceptance approach. Based on the fundamental research question – 'what are the pushing factors in the adoption of travel e-shopping?' - this research set out to build an understanding of the primary drivers of e-shopping adoption. To accomplish these aims, the study draws on primary data collected through an online consumer survey in the UK, one of the most technologically advanced countries in Europe. The next sections summarise the overall thesis content.

9.2   Research Overview

Figure 9.1 summarises the organization and the flow of the thesis. It is the same figure that was presented in the first chapter.

Figure 9.1: Thesis Overview
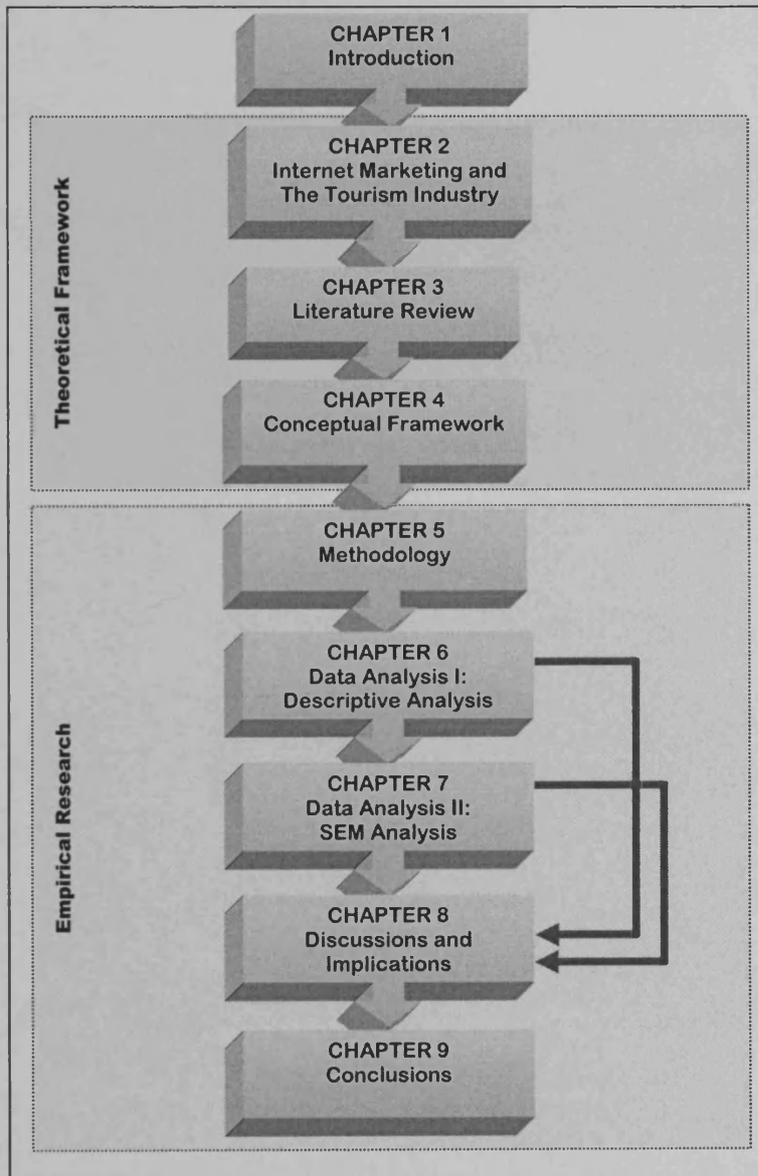
Source: this thesis

Chapter 1 of the thesis examined the nature of the research problem. Tourism industry players such as travel agents, tour operators, hotels, airlines and government agencies have increasingly been implementing Internet-based services and initiatives with the

implicit objectives of improving competitive advantages as well as increasing sales. Studies have suggested that the Internet represents a tremendous opportunity not only for marketers but also for consumers. For consumers, it gives a much wider choice of products, services and prices from different suppliers and the means to select and purchase items more readily. For marketers, it gives the opportunity to expand into new markets, offer new services and compete on a more equal footing with larger businesses. It also gives the opportunity to develop new skills and to use the Internet to improve the competitiveness of a company. Based on these opportunities, the chapter presented the rationale of this study by highlighting the importance of knowing the online target market for travel services, which is related to individual behaviour (i.e. cognitive elements) and other related factors that influence the decision to adopt e-shopping.

The background of the study and its problems were elaborated in this chapter. In addition, the research objectives, research scope, research questions and the significance of the research were also addressed. The specific objectives of the study were to:

i. Determine the profile and purchase behaviour of e-shoppers for travel services.

ii. Apply the Technology Acceptance Model (TAM) to examine the antecedents of travel e-shopping adoption.

iii. Derive a number of antecedents from individual consumers that are likely to affect the adoption of travel e-shopping.

iv. Explore the nature of the relationship between each of the antecedents and the adoption of travel e-shopping.

v. Propose a model of e-shopping adoption for travel services.

vi. Present suggestions to travel e-tailers in terms of enhancing their online marketing strategies.

Based on the framework of the Technology Acceptance Model by Davis (1989), the research model was designed to identify the inter-relationships between the antecedents of Internet shopping adoption (see Figure 9.2). Drawing upon the research model, the subsequent chapters focus on the theoretical framework as well as the empirical part of the study.

Figure 9.2: The Research Model
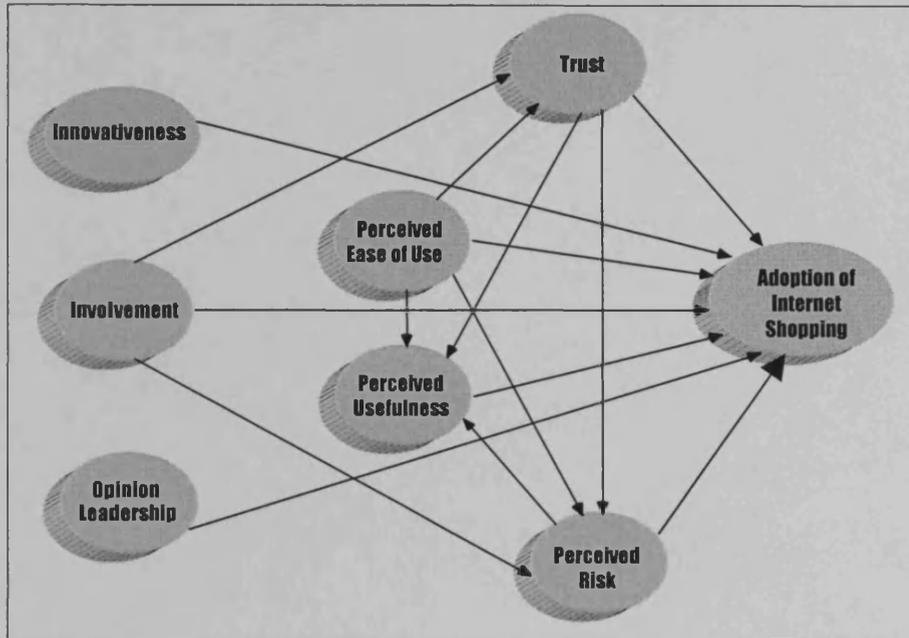
Source: this thesis

Chapter 2 presented the background of Internet marketing and the tourism industry in implementing Internet marketing to market travel services or tourism products. This chapter reviewed the significance of Internet marketing to marketers with an emphasis on the travel industry. This chapter continued with a literature review of tourism marketing, then focused on the current practice of travel e-marketing. The section continued with a discussion of the UK online tourism context, including an examination of the current growth, performance and strategies adopted by online tourism players. The final part of the section dealt with the barriers in the implementation of Internet marketing to marketers.

Chapter 3 reviewed the literature and theoretical background in the field of new technology adoption, consumer innovativeness and involvement. Other related models were also reviewed, such as the diffusion of innovation, opinion leadership, perceived risk and trust. These reviews emphasised definitions, theories or models, dimensions and previous findings, which were later used in the conceptual model development in Chapter 4. In the review, each construct and its relationship to consumers' adoption decisions were also discussed, and it was argued that these variables were more prominent for analysing adoption behaviour, as it appears to encompass individual characteristics as well as technological advantages.

Chapter 4 presented the conceptualisation of the research framework developed from the literature and theoretical review of the previous chapters. The framework consists of eight

constructs and fourteen hypotheses. The conceptual framework proposed that consumers' adoption of travel e-shopping would be strongly influenced by: (i) perceived usefulness and perceived ease of use (ii) consumer innovativeness (iii) consumer involvement and (iv) perceived risk and trust.

Chapter 5 discussed the content of the methodological domain. Initially, the chapter addressed the philosophical assumptions underpinning this research, and the reasons why these characteristics favoured the adoption of the research paradigm were discussed. These correspond to the ontological assumptions of a positivist stance and an initial phenomenological stance in the exploratory stage of this research. Subsequently, the research design, data collection methods and survey instrument were described. In particular, this chapter discussed the entire data collection process from focus group interviews to online questionnaire survey distribution. This was followed by an elaboration of the sampling techniques, including the study population, sampling frame, sample selection and sample size as well as the rationale behind the selection techniques. Finally, this chapter provided a brief discussion of the measurement scale and instrument, including tests of reliability and validity as well as the statistical method or analysis techniques that were employed, which consisted of descriptive analysis using SPSS 12.0 and multivariate analysis using Structural Equation Modelling via the AMOS 5.0 software package.

Chapter 6 dealt with the initial analysis based on the results of the data collection using SPSS. Firstly, a descriptive analysis of all the collected data was presented, with tables, figures and graphs. The descriptive statistics, such as mean values, standard deviations and significance tests, were used to describe the demographic characteristics, buying patterns and behaviour of the respondents that made up the sample of Internet shoppers. This chapter also presented the results obtained from the focus group interviews conducted in the exploratory stage of this study. Then, in the second part, the descriptive statistics of the measurement scales for the eight constructs were reported, together with the reliability and validity results. This section also presented regression analyses to examine the expected relationships among the variables.

Chapter 7 was structured in two parts, based on the two-step approach of SEM analysis. The first part involved the assessment of the measurement model by Confirmatory Factor Analysis as well as observing the unidimensionality, reliability and convergent and discriminant validity of the results produced. The data were first examined for outliers and normality. Upon reaching adequate measurement properties, composite means were constructed for all the scales and these indices were used as new variables in the structural model evaluation.

In the second part, the goodness-of-fit of the hypothesised structural model was assessed based on SEM analysis results using the AMOS programme. Subsequently, fourteen hypotheses, which were formulated in Chapter 4, were examined for significance. Eventually, after formulating and evaluating four competing models, the final model was generated, as it is the most parsimonious model, which represents the best fit to the data (see Chapter 7, Figure 7.5 and Table 7.12).

Chapter 8 presented the answers to the research questions, drawing upon the overall data analysis and research findings. The chapter also examined the implication of the findings for theory and practice, as well as providing the relevant recommendations for practice.

Finally, in Chapter 9, an overall summary of the thesis is briefly outlined. Subsequently, the research contributions, research limitations, future research directions and overall conclusion are presented.

9.3   Research Contributions

The research contributions are divided into three subsections, addressing contributions to theory, methodology and practice.

9.3.1   Theoretical Contributions

Contributions for Internet Shopping Adoption Model

First, the comprehensive, yet parsimonious model developed in the present study makes an important contribution to the emerging literature on online consumer behaviour by grounding new variables into a well-accepted general model (TAM) and then applying them to a new context of e-shopping. Based on the TAM, this study integrates a few personal characteristics that have been drawn from previous literatures. As a result, the proposed model of travel e-shopping highlights the influence of consumer innovativeness, consumer involvement, opinion leadership, trust and perceived risk on the adoption of Internet shopping for travel services. In this context, the term 'Internet shopping adoption' suggests actual behaviour, not merely intentions (see also contributions to the TAM).

A second contribution of the research model is that it examines the actual 'objectives' of the e-shopping adoption decision without signalling its relationship with the intentional behaviour, whereas past research on technology acceptance has either indicated acceptance by inference from the respondents' intentions, in the sense that intentions are positively related to behaviours, or measured 'subjective' self-reported actual behaviour

(see Chapter 3). This is an important issue, as researchers have questioned the strength of the relationship between intentions and self-reported subjective use (e.g. Straub, et al., 1995). In measuring the actual adoption of travel e-shopping, the present study contributes to previous literature by supporting the proposition that behavioural intentions to use in the IT context do not represent the actual adoption behaviour.

Finally, there are several new findings on the antecedents of travel e-shopping adoption, which contribute to theories (see Chapter 8). Firstly, the positive relationship between consumer innovativeness and trust, suggesting a positive attitude towards new inventions, explicitly promoting trustworthiness, deserves particular attention. Secondly, the positive relationship between consumer involvement and PEU suggests that the simplicity of new technology use depends on individual involvement based on inherent needs, values and interests (Zaichkowsky, 1985). Thirdly, opinion leadership acts as an indirect antecedent to adoption through PEU and PU. This finding highlights the significant role of opinion leadership in consumer adoption decisions. Due to lack of evidence from previous studies in this particular area, the opinion leadership-TAM relationship needs to be tested in different contexts (see also contributions to the TAM).

Contributions to the Technology Acceptance Model

First, the results suggest that the proposed travel e-shopping adoption model based on the TAM possesses substantial explanatory power. As the prior literature has offered numerous variables to predict e-commerce adoption, the present study has identified the most important ones, which recur in the IT adoption and use literature (PU and PEU), the domain of IS (trust, perceived risk) or the diffusion of innovations literature (innovativeness, involvement and opinion leadership). The critical linkage of these variables with the adoption of e-shopping provided reasonably high goodness-of-fit (GFI=.912, RMR=.034, RMSEA=.047); thus, the results provide convincing support for the theoretical framework of the study. Further, the integration of consumer involvement and opinion leadership with the TAM constructs is not only theoretically appealing, but also empirically significant, since it produces a good data-fit in the final model.

Second, PU has a significant effect on adoption, confirming the possibility of extending the TAM into the e-shopping context to explain consumer acceptance. However, the effect of PEU on adoption was not significant. The results suggest that PEU has an indirect effect on adoption via PU, on which it has a strong direct effect, thus allowing the inference that PEU fosters the usefulness of e-shopping. A possible explanation was offered by Davis (1989), who argued that PEU might act indirectly on adoption through PU. As discussed in

Chapter 8, the non-significant link between PEU and adoption is also consistent with prior research that suggests that ease-of-use initially influences potential adopters' usage intentions (Gefen and Straub, 2000). In other words, PEU will only affect use when the intrinsic character of the technology contributes to the actual outcome. The sample for the present study consisted of experienced Internet users, and as users gain experience with the technology, more cognitive considerations emerge and gain significance in determining the adoption behaviour.

Third, the study also shows evidence of the effects of PR and trust on the TAM. Although many researchers have proposed that PR and trust influence consumer adoption (Kim and Prabhakar, 2000), this study found that PR and trust showed only indirect effects on the adoption decision through TAM variables. By separating the effects of trust from those of PR, a better understanding of the influences of these two variables on the TAM as well as adoption behaviour may be gained. Trust, which influences PR, effects consumer adoption through PU. This study implies that PR and trust in the online transaction and retailers have effects on the adoption of e-shopping. Finally, the new link found between consumer innovativeness and trust has indicated that in the context of e-shopping, consumer innovativeness is vital in establishing trust. Hence, the relational element plays an important role in this electronic purchase environment.

Contributions for Research Measures

This particular contribution is based on the development of an overall instrument to measure the adoption of travel e-shopping. The development process began with the input obtained from the focus group discussions in the exploratory stage (see Chapter 5). From the exploratory results, validated instruments were sought, and then appropriate items were chosen and tailored to suit the online setting. Subsequently, the items were revised as necessary, and then tested and validated through pilot testing by experts and consumers. As the results show, not all items indicate a high degree of confidence in their content and construct validity; limitations due to the nature online surveys should be taken into consideration when discussing this effect (see Chapter 5, Section 5.7).

The research instrument consisted of the original TAM constructs (PU and PEU), external variables (consumer innovativeness, consumer involvement, opinion leadership, trust and perceived risk) and an adoption of technology measure. However, it should be noted that the scales used in the current study were context-specific; this prevented 'changeable setting', which can cause the meanings of items to vary according to study context (Giese and Cote, 2000). Therefore, this indicates that if any replication study were to be carried out

beyond the Internet shopping context, some refinement to the indicators used for the constructs must be carefully considered.

Contributions to Travel E-Marketing Literature

Based on the literature review pertaining to consumer behaviour in Internet shopping for travel services, this study has extensively explored the e-marketing industry, particularly in the travel business (see Chapter 2). The effort of understanding the nature and structure, facts and statistics with regard to the travel industry should be valued. Travel services are reported to have significant economic and social impacts to most countries, being the most successful online markets; yet consumers' motivation to buy travel services online remains unknown. This study responds to the calls for advanced research on e-shopping for services (intangibles) made by various scholars in the marketing disciplines, such as Anckar (2003a); Gefen and Straub (2003); Holloway and Beatty (2003) and Luarn and Lin (2003).

In summary, both theoretical and empirical findings of the study and the overall model results have contributed to the understanding of the interplay between individual characteristics and technological acceptance variables in e-shopping adoption. The conceptual ideas and supporting empirical evidence revealed in these two streams of research serve as guiding parameters for consumer adoption constructs, which have been integrated and rationalised to formulate a comprehensive and justifiable model. Through the study, both individual and technological characteristics are found to have either direct or indirect effects on e-shopping adoption. Thus, the findings indicate that the influencing factors on consumer online purchase decisions are more complex compared to offline purchase decisions. Furthermore, this study highlights how factors such as opinion leadership, consumer innovativeness and involvement affect the TAM and adoption decisions as a whole. Thus, this approach would be of practical use to practitioners in understanding consumer behaviour related to e-shopping.

9.3.2   Methodological Contributions

Contribution for Multi-Methodological Approaches

This study endeavours to make a methodological contribution by adopting a multi-methodological approach. The qualitative exploratory focus group discussion amongst actual e-shoppers provided much feedback and a rich description of e-shoppers' expectations and experiences. The input enabled a specific picture to be built, illustrating which factors actually influence consumers to adopt e-shopping. Yet, the value of these

explorations is limited, since the individuals' purchase behaviour was varied across different types of online products. Further, as this study aimed to understand the antecedents and their relationship with e-shopping decisions, the data needed to be quantified. It was the rationale of using both qualitative and quantitative methods that eventually evidenced the applicability of the approach in the study context.

Contribution for Measurement Model

The methodological contribution is the development of robust measures for the study, which enabled empirical testing of the hypothesised structural model that was developed based on theories, previous research findings and exploratory interviews. Given the lack of advanced research into online consumer purchase behaviour in the travel services context, the measures of the core construct (e.g. adoption of Internet shopping) had to be developed (see Chapter 5, Section 5.5). In order to purify all the measures, the study has adhered to guidelines suggested by Churchill (1979), and in turn, the resulting measures were refined and validated according to Anderson and Gerbing's (1988) suggestions by using the SEM analytical technique. The measure validation process is illustrated explicitly in Chapters 6 and 7. It is worthwhile to note that in assessing the measures' validity and reliability, all established methods were used, as suggested in the SEM-related literature. Hence, it could be argued that the current study is among the very few to have done this, with the notable exceptions of De Wulf (1999) and Koufteros (1999).

Contribution for Online Surveys

The contribution has been the application of an online survey, where the SNAP software package was utilised to design and administer the survey. It is rare to the point of surprise that this new method of data collection (i.e. online survey) contributes similar functions as offline data collection (see Kehoe and Pitkow, 1998; McCoy and Marks, 2001). Although the design and development of the whole online survey package, including the automated survey administration, consumed much time and effort, this creative and occasionally sophisticated method saved time, cost and hassle in the field work. Instead, the sample selection system was able to select the right target respondents based on a few screening questions. Thus, this contribution is to attest to the great opportunity to accelerate the research process via online survey tools. ·

9.3.3 Practical Contributions

Contributions to Understanding the Online Market

This study contributes to and extends the understanding of the Internet as a medium for commercial use in the business-to-consumer (B2C) arena, identifying consumers' rationales for adopting e-shopping. As noted by Swaminathan et al. (1999), an understanding of reasons for online purchasing is particularly relevant in the context of predictions made regarding e-shopping in the future. From a managerial viewpoint, firstly, the findings provide support for investment decisions, and for decisions relating to the development of Internet services that address and take the concerns and wants of consumers into consideration. Although the findings rest upon a rather extensive empirical investigation, as regards the external validity of findings, it must be pointed out that the results are valid only for UK consumers.

Further, although considerable online tourism research has been conducted in other countries (Mason and Gray, 1995; Chu, 2001; Heung et al., 2001; Wan, 2002), these findings could not be generalised to the UK market due to differences in culture, lifestyle, economics and technological advancement. In the UK, ICT development is more advanced and the Internet penetration rate is relatively high. Thus, this study contributes to an understanding of how Internet facilities can be embraced by tourism practitioners, and also how these facilities contribute to the development of online tourism in the UK. To this end, the framework proposed for analysing UK online consumer behaviour in order to gain an understanding of the antecedents of Internet shopping adoption could be used as a practical tool to predict how consumers behave online.

Contributions to Consumer Behaviour and E-Marketing Strategies

This contribution is related to overall online consumer behaviour. As consumer involvement, perceived usefulness and consumer innovativeness are found to influence the adoption of travel e-shopping, this thesis identifies these influences. One of the prominent reasons why people adopt e-shopping is the convenience of the shopping medium. This study confirms that the convenience of e-shopping attracts to consumers, as it enables them to shop at any time, from anywhere, as well as providing product information sources, lower prices and perceived control over purchase decisions. However, privacy and the security of personal and financial information during transactions are concerns amongst e-shoppers. This credence provides an important guide for e-marketers in pursuing e-marketing strategies.

In addition, in enhancing consumer involvement and innovativeness, this study suggests that attention should be given to web design. The importance of store websites' elements, such as a professional corporate image, ease of use, and fun, dynamic, memorable, interactive, believable, simple, appealing, distinctive and efficient sites will create online shoppers' interest in a website during the first visit (Bishop, 1996; Hurley and Birkwood, 1996; Kotler et al., 1993). This information may be used as guidelines or ideas for travel web retailers in designing successful travel websites that are able to attract visitors as well as shoppers.

This study provides recommendations that are readily applicable (see Chapter 8), to help web-store designers focus their attention on the various design features that will have an impact on e-shoppers' involvement and satisfaction through pleasant and enjoyable shopping experiences. This is vital, as it relates directly to repurchase behaviour and adoption decisions. These are the areas in which this study provides more insights to practice (see Chapter 8).

Further, web designers have to understand consumers' feelings regarding their ability to use this technology. This will be particularly critical in gaining the favour of later adopters. Together, these results suggest the need for increased user-centred design, which incorporates physical, cognitive and emotional aspects of the user's experience with technology (March, 1994; Hennemen, 1999). The lack of technology-facilitating conditions suggests that perceptions of technical reliability and functionality are not significant, which could result in a rejection of e-shopping. This credo represents an important direction for web designers of online travel websites.

9.4   Research Limitations

As with any research, the present research findings should be interpreted with some caution based on several limitations. However, necessary remedial actions have been taken to minimize the possible effect of these limitations on the results.

Firstly, there is always the issue of generalisability in consumer behaviour studies, and the present study is no exception. As this study was conducted on UK e-shoppers, whose purchasing behaviour and patterns might be influenced by their technological development, socio-economic status and lifestyle, the generalisability of the findings to other countries may be limited. If the study had been conducted in less developed countries, the pattern of findings and/or pertinent constructs may have been entirely different. This calls for research to address the issue by an examination of the deeper cross-cultural generalisability issues.

Secondly, the data for the present research were collected from a single consumer database provider, and one that has a reputation as an established survey firm. However, the respondent profile shows that that participants were from mixed backgrounds and from various locations (see Chapter 6).

Thirdly, the current investigation was restricted to the context of the travel industry; therefore, the generalisation of findings is limited by the characteristics of this specific industry. Thus, generalisations of the findings beyond the travel industry must be cautiously inferred.

Fourthly, the research design of the present study was cross-sectional, whereby all the constructs incorporated in the hypothesised model were assessed at a single point in time; hence, no definite conclusions can be drawn concerning the causality of relationships among constructs (De Wulf, 1999). Therefore, future research via a longitudinal study would provide further significant contributions to knowledge.

Finally, the measures of all the research constructs were collected at the same point in time and via the same instrument, so the potential for common method variance may exist (Straub et al. 1995). However, there was no indication of lack of discriminant validity among the principal constructs, the usual sign of common method variance. Thus, future research could employ a more controlled experimental manipulation to prevent respondents from providing uniform responses across all constructs.

9.5 Future Research

The limitations mentioned above suggest fruitful directions for future research to extend the research findings. Thus, this section proposes several interesting research ideas to be explored based on the knowledge gained from conducting the research.

Firstly, even though this study has attempted to include a wide range of variables to explain consumers' technology acceptance behaviour, it seems clear that other factors associated with complex consumer characteristics must be explored and potentially included in a more complete theoretical model. More broadly, future research should seek to further extend models of technology acceptance to encompass other important theoretical constructs (Davis et al., 1989; Venkatesh and Davis, 2000; Gefen and Straub, 2000 & 2003). The finding of the direct relationships of external variables over and above the TAM variables may be illustrative of the fact that in Internet marketing settings, the TAM needs to be extended to include other mediating beliefs. Future research could also seek to further extend models of technology acceptance to encompass other theoretical constructs relevant to e-shopping. It would be interesting, for example, to explore the role of consumer satisfaction, shopping orientation, personal traits and social influences on the acceptance of e-shopping.

Secondly, the present research examined travel services as a single industry, even though it typically includes the hospitality, leisure and tourism destination businesses. Therefore, it would be potentially worthwhile for future research to validate the generalisability of this research model with regard to the different types of business or products within or outside the industry.

Further, as the present investigation was based on an aggregation of multiple travel services, it would be interesting for future research to replicate this study to validate the generalisability of the conceptual model based on specific travel services such as airlines, hotels etc. This would be a promising research avenue, because it is believed that all the measures used in this study are generally applicable to any travel service. It is envisioned that by embarking on research in a specific travel service context, consumer adoption behaviour could be more explicitly identified and product/service strategies could be developed and precisely utilised to stimulate the greatest overall return from the performance improvements.

Thirdly, as described earlier, due to the cross sectional research design used, future research, using a longitudinal approach, may be able to assess the temporal dynamics of e-shoppers' adoption behaviour. This concern is alleviated to some extent, as the TAM

constructs have been shown to influence technology use in longitudinal studies (e.g. Venkatesh and Morris, 2000; Venkatesh et al., 2003). Even though a longitudinal research design is relatively costly and time consuming, it could provide stronger inferences for causality and improve understanding of the consumption process and dynamic and cumulative effects among hypothesised links (Parasuraman, 1991). Therefore, it is recommended that future research should adopt the longitudinal research design.

Fourthly, in the prediction of the effect of trust and PR on e-shopping, these constructs were found not to be significantly related to the adoption decision, but actually mediated by PEU and PU. These unexpected results could be explained by the assumptions that PR and trust mostly lean towards usability and usefulness in the initial stages of adoption. These relationships need to be re-examined in different consumer adoption stages. Therefore, it would be a fascinating research direction to investigate the significance of this link in other marketing contexts.

Fifthly, the current investigation suggests that opinion leadership was not a significant predictor of consumer adoption; however, it provides evidence that it has a significant effect on PEU. This implies that no matter how strong the opinion leadership consumers have regarding e-shopping; they still rely on the ease-of-use of the technology. Therefore, the present conceptual model should be re-assessed and validated by examining the moderating role of PEU.

Finally, advanced research should be embarked upon to replicate and validate the model in order to determine the robustness of the current findings. Since the generalisability of the model is inherently limited to the travel services setting, the model and hypotheses should therefore be extended beyond the present context (e.g. to the e-banking industry and the Insurance industry). By doing so, these replication studies could extend the generalisability of the findings derived from the current study. This research direction appears to be potentially rewarding because the tourism industry is considered as the highest growth business on the Internet.

9.6   Conclusion

The rapid growth of Internet marketing is imposing profound impacts on modern society. On the supply side, the emergence of Internet marketing is greatly changing the operation behaviour of some retailers, and is increasing product internationalisation due to its geographically unlimited nature. On the demand side, the pervasiveness of e-shopping affects how, where, and when consumers shop, and indirectly influences the way in which people live. However, the development of Internet shopping is still at an early stage, and why consumers choose (or do not choose) online purchasing is far from being completely understood. To better evaluate and anticipate the profound impacts of e-shopping, therefore, it is vital to further refine the understanding of consumers' e-shopping behaviour.

The results of this study yield preliminary evidence that previous technology acceptance and diffusion research, and specifically the significant body of work based on the TAM, may serve as a foundation for much needed research into consumers' adoption of Internet related activities. Relationships among primary TAM constructs found in this research are largely consistent with those typical in previous TAM research. This study has also built on current knowledge and outlined a series of research propositions that could provide a more comprehensive understanding of consumers' adoption of e-shopping. The research framework is one of the very first studies to incorporate cognitive variables from the literature on consumer adoption of innovation and the TAM, and helps to initiate the integration of cross-disciplinary studies in e-marketing. The research framework explicitly considers consumer innovativeness, involvement, opinion leadership, perceived risk and trust as key drivers of consumers' adoption of travel e-shopping apart from TAM variables. The dimensions of the key drivers are carefully identified and analysed. Understanding consumers' adoption of e-shopping is particularly important because a high level of adoption is associated with several key outcomes (e.g. repeat purchase).

In the current study, the dimensions addressed can greatly assist researchers in understanding how consumers generate the adoption of e-shopping. Essentially, this framework helps to explain three basic issues: (i) Who actually shops via the Internet? (ii) What makes consumer adopt Internet shopping? (iii) Which attributes are relatively important to adoption? Indeed, this integrative framework advances information system research. In addition, this study suggests that theories proposed by different leading researchers can be integrated into one framework, so that the understanding and prediction of consumer adoption of Internet shopping is far more comprehensively grounded than by using only one theory. To conclude, this study's theoretical framework provides an integration of existing research and a springboard for future systematic research in the area of online consumer behaviour.

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"The only place where 'success' comes before 'work' is in the dictionary."

— Vidal Sassoon —
— The Chambers Book of Business Quotations (1987) —

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APPENDICES

"If your only opportunity is to be equal, then it is not opportunity."

— *Margaret Thatcher* —
— *Bachman's Book of freedom Quotations (1978)* —

Appendix 2.1

Times Online: 90 of the Best Travel Websites

November 01, 2005

It just gets better for online travellers, with new sites constantly emerging that sweep, scrape and source what's out there and delivers it to your desk. Here's our selection of the best sites in online travel today

RECENT ADDITIONS

www.travelblog.org - Brilliant site hosting blogs for travellers for free.

www.aito.co.uk - The Association of Independent Tour Operators launched a huge new website in August, including over 150 operators and a searchable database of holidays of all types.

www.travelzoo.co.uk - Cherry-picks the best of the bargains available online.

www.goodbeachguide.co.uk - The Marine Conservation Society has produced a site that gives you in-depth information about all beaches that it recommends.

www.nationaltrail.co.uk - This new site dedicated to the 15 designated National Trails in England and Wales is an invaluable resource, with plenty of photographs, a nice design and excellent interactive map of the routes.

www.hostels.com - Fabulous resource for books hostels worldwide that are bookable online.

www.rarebits.co.uk - Lovely site listing and acting as an agents for hotels 'of distinction' in Wales, with selections and ratings in association with the Welsh Tourist Board

www.1000traveltips.org - Lots of useful tips from independent travellers for independent travellers.

www.travellingcompanions.co.uk - Excellent resource for pairing up people who are travelling on their own and want some company.

www.luxuryexplorer.com - A recent addition to the luxury travel market, the portal should a success for those with money to burn who require inspiration and may be short of time to search for individual hotels or companies on the web.

www.worldsurface.com - Attractive webzine promoting sustainable and responsible tourism.

TAKE OFF

www.airlinequality.com - Surveys and reviews of airlines from around the world

www.ufly4less.com - This site scours the websites of 13 of the most popular low-cost airlines to find the cheapest deal, whenever it is.

www.lowcost.com - Useful resource giving information on what low-cost airlines fly where in Europe.

www.skyscanner.net - Searches Europe's budget airlines for the best deals and times to travel on any route.

www.whichbudget.com - As much as anyone can keep up with new low-cost routes, this site is the original and best at keeping on top of the game in the frantically changing who-flies-where market

www.cheapestflights.co.uk - Part of the Co-operative group, good charter flight deals and a useful section with individuals offering villas for rent

www.moneysavingexpert.com/flightchecker - Searches budget airlines and tells you when to fly for the best prices.

MORE TRAVEL

www.traveldepot.co.uk - Book your airport parking, insurance, hotel, even your airport lounge on this simple, incredibly unfussy site.

www.ferrybooker.com - Book short breaks and search for holidays by car, with dynamic packaging allowing users to compare ferry operators.

www.thetrainline.co.uk - A simple website allowing you to book train journeys in Britain, continental Europe and now in selected regions around the world.

www.nationalexpress.com - This website is worth monitoring for special offers, where you can travel to cities throughout the country for the price of a cup of tea.

www.megabus.co.uk - A competitor of National Express that has driven down prices. Travel the length of the country for £1 - if your spine can take it.

www.seat61.com - Travel comfortably by train or ship with this enthusiast's comprehensive guide, including a journey planner helping you get to and around countries worldwide.

CHOICES

www.ugogo.co.uk - Aims to provide budget breaks to more holiday parks in more unusual locations than the standard city breaks.

www.kelkoo.co.uk - This price comparison website now acts as a portal to search for the best flight, car hire and hotel rates.

www.deckchair.com - Another multi-travel site that was founded by Bob Geldof.

WINTERSPORTS

www.skiclub.co.uk - Snow reports, resort information and much, much more from this internet resource for skiers and snowboarders.

www.1ski.com - A comprehensive and professional site for holidays, equipment and snow reports.

www.ifyouski.com - Chalet deals, resort information, snow reports, kit offers and latest news. Basically, all you could possibly want from a skiing website.

ACTIVITIES

www.factivities.co.uk - A new website with information and booking facilities for all kinds of activities from orienteering and rambling to model flying and archery.

www.premieriberian.com - Down in the Algarve? If you're looking for a golfing holiday, check this site out for general information on holidays to Spain and Portugal and offers.

www.transcotland.com - Walking holidays in Scotland, with routes in the Scottish Borders and the Highlands and Islands.

www.west-highland-way.co.uk - Informative site for anyone wishing to complete part or all of one of Britain's favourite treks, includes maps, distances and accommodation.

A PLACE TO STAY

www.roomauction.com - A great idea for saving money by booking online.

www.hotelscomparison.com - A basic hotel price comparison, the roster of last-minute hotel providers that it searches is impressive.

www.boutiquesrilanka.com - The number of attractive photos and useful country and event guides is quite an achievement for a site that is providing accommodation.

www.bookings-hotels.com - A website that offers information and direct access to a range of hotels across the world.

www.i-escape.com - Current specials look at Spring Escapes, Spain and the Canary Islands. I defy you not to want to book immediately.

www.holidayhotels.com - Formerly Medhotels.com, it's been bought by Lastminute and revamped to look like its Holiday Autos site.

www.chicretreats.com - Like i-escapes.com (but nowhere near as good looking), a good fun site to visit if looking for a boutique hotel or villa.

www.organic-holidays.com - When I first came across this collection of organic farms, B&Bs and hotels, there was a handful of choices.

www.holiday-rentals.co.uk - A source for booking over 10,000 holiday properties, from villas with pools to chalets in ski resorts.

www.laterooms.com - Lists hotels by location, showing rates regularly updated with up to 70 per cent off.

www.hostelworld.com - A website with thousands of options for cheap hostels and hotels at destinations throughout the world.

www.lowcostbeds.com - The name of this website says it all. A simple yet useful guide to low-cost hotel rooms across Europe.

www.FiveStarAlliance.com - US-based luxury hotel booking service. Useful hotel information for those with money to burn.

www.couchsurfing.com - Excellent new independent travel website. Sign up and find people to stay with around the world, or host them where you live.

www.myvillarenters.com - Just voted the best travel website by Web User magazine, it has 6,000 properties of every size - with instant booking confirmation the big bonus.

Spain

www.parador.es - Government tourist board-run chain of beautiful rural and unusual hotels in excellent locations in Spain, many very good value properties.

www.rusticae.es - There are now more than 160 hotels (with a handful in France, Portugal and Argentina), well presented and bookable online

www.casaspain.com - More than 2,000 holiday villas in Spain, split into regions, then into specialities.

www.keytel.co.uk - This is another official booking site for the government-owned refurbished hotels, as well as all other types of accommodation.

www.secretplaces.com - Another better of a site, with more jewels in Italy and Portugal

www.madridbandb.com - As with the Italian B&B site, a damn good place to start in finding cheap, clean and characterful digs in the capital.

France

www.france-hotel-online.com - Offers low cost hotels in Paris and France. The website has discounts and late deals.

USA

www.hotels-of-new-york.net - A comprehensive directory of New York City's extensive choice of hotels, from the Waldorf to the Four Seasons

Italy

www.bbitalia.it - Ten years ago, the Holy See of Rome approved this site to help pilgrims find a place to stay for the city's 2000 celebrations. Now it has spread to B&Bs all over Italy.

Australia

www.bnbbookings.com - I found about this site when staying at the original Jacobs Creek cottages in South Australia and it's superb. If you're down that way, choose from more than 90 thumpingly good places to stay in the state.

Japan

www.japaneseguesthouses.com - Always wanted to go, but daunted by Japan? Then try this English-language site. It has 500 ryokans all over Japan, is so easy to use and puts you at ease immediately.

Czech Republic

http://travelprague.wz.cz/all_prague_hotels.html - A simple directory of Prague hotels, offering a list of hotels from two to five stars and links to their respective sites.

ALL AT SEA

www.cruisedeals.co.uk - A wide selection of deals on cruises around the world's high seas, catering for all budgets.

HOLIDAY BIDDING

www.biddingfortravel.com - This site teaches you to bid for deals on sites like priceline.com and hotwire.com.

www.ebay.co.uk - For the obsessive bargain-hunters out there. Bidding for a holiday online sounds a risky business, but if you're careful, you can save a packet.

INSIDER SITES

www.travelintelligence.com - This online hotel site is much more than a standard booking service. There is a large archive of travel writing from 120 writers, including many well known novelists and journalists.

www.youngineurope.com - Backpackers contribute up-to-date recommendations of places to stay, eat and go out in Europe.

www.wordtravels.com - A useful resource aimed at providing information for travel agents but basic information for public. Get an overview on a wide range of countries and regions, as well as specific useful information such as vaccination requirements.

www.virtourist.com - Onli ne travel guides that benefit from a large number of good quality pictures for each featured destination.

www.mrVisitor.com - Excellent new site filled with information for travelling around Britain, from places to stay and eat to transport and events.

www.stanfords.co.uk - Online shopping from the UK's most famous travel bookshop.

www.timeout.com - Website of the London listings magazine that also publishes guidebooks includes potted online city guides and event listings.

www.roughguides.co.uk - Mini-online guides from famous guidebook brand, with additional world music section.

www.intobarcelona.com - An interesting Barca-based site which gets you more inside the city, with accommodation off the beaten track and dozens of suggestions for making the most of your time in the city.

www.lonelyplanet.com - Maps of countries as well as short travel guides from the guide book publisher.

www.ahedonistsguideto.com - Purely a booking site for the guide books, but worth knowing for this small range of fantastically researched guides to Lisbon, Tallinn, Prague, Madrid, Marrakesh and Stockholm.

USEFUL & MISCELLANEOUS

www.mapminder.co.uk - One of the many advantages of UK interactive map site Mapminder over Streetmap is the ability to search listings of nearby buildings and companies. You can find restaurants, bars and entertainment, book hotels and more.

www.jetlagtravel.com - Spoof travel guides about imaginary places, as nicely designed as the main online guidebooks but summoning a virtual world based on stereotypes of various regions.

www.surf2travel.com - Marketed as the travel 'Google', this site provides listings of travel websites based on keyword searches.

www.onlinetravelbrochures.com - A new site from surf2travel, this is an excellent service that allows you to view travel brochures from travel agents in PDF format, saving paper and any need to wait for the post.

www.igougo.com - The 'travel Google', igougo is a travel-specific search engine with 350,000 members who have contributed over 300,000 travel journals on just about everywhere.

www.fco.gov.uk - The latest information on countries that aren't safe to travel to. A regular point of contact during disasters and conflict.

www.thesite.org - Guide on travel safety including keeping documentation secure, researching your destination, legal advice and staying money-wise.

http://insurance.essentialtravel.co.uk/student_trav el_safety.htm - As above, but aimed at the vast number of young people travelling to the world's four corners.

www.tripadvisor.com - US-based, sells the usual products. User reviews of hotels make this a useful resource.

www.informationfrance.com - A nicely presented website that has pages on each region of France. The short guides to each department detail highlights and include photographs.

www.bugbog.com - An excellent independent travel guide. Geared towards independent travellers, it has lots of sections, from world festivals to exotic places.

http://world.altavista.com - Babel fish - a useful translation tool, enabling web surfers to understand travel-related sites published in other languages.

www.abta.com - The association's site provides information and links to bonded members for peace of mind online.

www.toptable.co.uk/paris - This established restaurant review, search and booking website has now expanded to include Paris restaurants.

Appendix 3.1

Category of Adopters: Characteristics and Background

Adopter Category	Characteristic and Background
Innovators	• Pursue new technology or products aggressively; eager to try new ideas and products, intrigued by any fundamental advance and often make a technology purchase simply for the pleasure of exploring it. • Out of a local circle of peers and into social relationships more cosmopolitan than normal. • Usually have substantial financial resources, and the ability to understand and apply complex technical knowledge. • Risk-takers and willing to accept the occasional setback when new ideas prove unsuccessful.
Early Adopters	• Like innovators, buying into new product concepts very early in their life cycle, but unlike innovators, they are not technologies. • Find it easy to imagine, understand, and appreciate the benefits of a new technology, and to relate these potential benefits to their other concerns. • Frequently get in contact with salespeople of new products and willing to base their buying decisions on salespeople's advice. • Play a crucial role as opinion leaders who influence other consumers.
Early Majority	• Adopt innovations right before the average consumer in the market does. • Share some of the early adopter's ability to relate to technology, but ultimately driven by a strong sense of practicality. • Want to see well-established references before investigating substantially. • Many people in this group: roughly one-third of the whole population.
Late Majority	• Delay adoption of the innovation mainly because of distrust about new ideas. • Decide to adopt when something has become an established standard. • Buy from large, well-established companies that have lots of support. • Mostly rely on opinions expressed informally by close people. • Watch electronic media less frequently than others do. • Like early majority, this group comprises about one-third of the buying population. Taken together, the early majority and the late majority represent the 'mainstream'.
Laggards	• Simply do not want anything to do with new technology, for any of a variety of reasons, some personal and some economic. • Distrustful of innovations and socially isolated. • Adopt when the new product is most likely close to its withdrawal from the market or substitution by another new product.

Source: Rogers, 1971

Appendix 3.2

Kirton's Adaptor-Innovator Characteristics

The Adaptor	The Innovator
Characterized by precision, reliability, efficiency, methodicalness, prudence, discipline, conformity.	Seen as undisciplined, thinking tangentially, approaching tasks from unsuspected angles.
Concerned with resolving residual problems thrown up by the current paradigm.	Could be said to search for problems and alternative avenues of solution, cutting across current paradigms.
Seeks solutions to problems in tried and understood ways	Queries problems' concomitant assumptions: manipulate problems.
Reduces problems by improvement and greater efficiency, with maximum of continuity and stability.	IS catalyst to settled groups, irreverent of their consensual views.
Seen as sound, conforming, safe, and dependable.	Seen as unsound, impractical: often shocks his opposite.
Liable to make goals of means.	In pursuit of goals treats accepted means with little regard.
Seems impervious to boredom, seem able to maintain high accuracy in long spells of detailed work.	Capable of detailed routine (system maintenance) work for only short bursts.
Is an authority within given structure.	Tends to take control in unstructured situations.
Challenges rules rarely, cautiously, when assured of strong support.	Often challenges rules, has little respect for past custom.
Tends to high self-doubt. Reacts to criticism by closer outward conformity. Vulnerable to social pressure and authority; compliant.	Appears to have low self-doubt when generating ideas, not needing consensus to maintain certitude in face of opposition.
Is essential to the functioning of the institution all the time, but occasionally needs to be `dug out´ of his system.	In the institution is ideal in unscheduled crises, or better still to help avoid them, if he can be controlled.
When collaborating with innovators:	*When collaborating with adaptors:*
Supplies stability, order and continuity to the partnership.	Supplies the task orientations, the break with past and accepted theory.
Is sensitive to people, maintains group cohesion and cooperation.	Appears insensitive to people, often threatens group cohesion and co-operation.
Provides a safe base for the innovator's riskier operations.	Provides the dynamics to bring about periodic radical change, without which institutions tend to ossify.

Source: Kirton (1994, p. 10–11)

Appendix 4.1

External Variables Proposed to Affect
Perceived Usefulness and Perceived Ease-of-Use in Previous Studies

Organizational Characteristics	System Characteristics	User Personal Characteristics	Other Variables
• Competitive Environment •* • End-User Support •* • Group's Innovativeness Norm • • Implementation Gap •* • Internal Computing Support •* • Internal Computing Training •* • Job Insecurity •* • Management Support •* • Organizational Policies • • Organizational Structure •* • Organizational Support •* • Organizational Usage • • Peer Influence •* • Peer Usage • • Training •* • Transitional Support •*	• Accessibility •* • Access Cost •* • Compatibility •* • Confirmation Mechanism • • Convenience •* • Image/Interface •* • Information Quality • • Media Style •* • Navigation * • Objective Usability * • Output Quality •* • Perceived Attractiveness •* • Perceived Complexity • • Perceived Importance• • Perceived Software Correctness • • Perceived Risk •* • Relevance with Job •* • Reliability & Accuracy •* • Response Time •* • Result Demonstrability •* • Screen Design •* • Social Presence •* • System Quality •* • Terminology •* • Trialability •* • Visibility •* • Web Security •*	• Age • • Awareness •* • Cognitive Absorption •* • Computer Anxiety •* • Computer Attitude •* • Computer Literacy •* • Educational Level •* • Experience •* • Gender •* • Intrinsic Motivation •* • Involvement (Situational/ Intrinsic) •* • Personality •* • Perceived Developer's Responsiveness •* • Perceived Enjoyment •* • Perceived Playfulness * • Perceived Resources • • Personal Innovativeness • Role with Technology •* • Self-Efficacy •* • Shopping Orientation •* • Skills & Knowledge •* • Trust •* • Tenure in Work Force •* • Voluntariness •*	• Argument for Change •* • Cultural Affinity * • External Computing Support •* • External Computing Training •* • Facilitating Conditions •* • Subjective Norms • • Situational Normality •* • Social Influence •* • Social Pressure •* • Task Technology Fit •* • Task Characteristics •* • Vendor's Co-operation •*

Source: Yousafzai et al., 2005

Note:
• proposed to affect PU
* proposed to affect PEU

Appendix 4.2

Previous Studies on Technology Acceptance Model (1989-2004)

Study	Sample Size	Study Type	System Type
Davis et al. (1989)	107	Lab Study	Word Processor
Davis (1989)	109	Field Study	Electronic Mail
"	75	Field Study	XEDIT File Editor
"	40	Lab Study	Chart Master
"	40	Lab Study	Pendraw
Mathieson (1991)	149	Lab Study	Spread Sheet
Adams et al. (1992)	116	Field Study	Electronic Mail
"	68	Field Study	Voice Mail
"	64	Lab Study	Word Perfect
"	67	Lab Study	Lotus 123
"	54	Lab Study	Harvard Graphics
Davis et al. (1992)	200	Field Study	Word Processor
"	80	Lab Study	Graphic Software
Davis (1993)	185	Field Study	Email & Text editor
Hendrickson et al. (1993)	123	Field Study	Database & spreadsheet
Igbaria (1993)	519	Field Study	Microcomputer Tech.
Segar & Grover (1993)	191	NA	Email/Vmail, S/w Package
Igbaria (1994)	471	Field Study	Micro Computer
Lu & Gustafson (1994)	35	Lab Study	Interactive Supp. System
Phillips et al. (1994)	303	Field Study	Tech. Equipment
Straub (1994)	920	Field Study	Email & Fax
Subramanian (1994)	179	Field Study	Vmail & Customer Dialup
Szajna (1994)	231	Lab Study	Bibliographic Database
Chin & Gopal (1995)	64	Field Study	Group Support Systems
Igbaria & Livari (1995)	450	Field Study	Personal Computer
Igbaria et al (1995a)	214	Field Study	Micro Computer
Igbaria et al (1995b)	450	Field Study	Micro Computer
Keil et al. (1995)	306	Field Study	Expert Support Systems
Straub et al. (1995)	458	Field Study	Voice mail
Taylor & Todd (1995)	786	Lab Study	Comp. Resource Centre
Agarwal et al. (1996)	230	Field Study	Operating System
Chau (1996a)	192	Field Study	Word Processor
"	176		Spread Sheet
Chau (1996b)	97	Field Study	CASE Tools
Davis & Venkatesh (1996)	708	Lab Study	Word Proc. & Spread Sheet
Hendrickson & Collins (1996)	75	Field Study	Lotus & Word perfect
Igbaria et al. (1996)	471	Field Study	Micro Computer
Montazemi et al. (1996)	125	Lab Study	Software Package
Szajna (1996)	61	Lab Study	Email
Venkatesh & Davis (1996)	108	Lab Study	Software Packages
Agarwal & Prasad (1997)	73	Field Study	World Wide Web
Gefen & Straub (1997)	392	Field Study	Email
Ghorab (1997)	47	Field Study	Computerised Bank Sys.
Igbaria et al. (1997)	358	Field Study	Personal Computer
Jackson et al. (1997)	111	Field Study	Information System
Morris & Dillon (1997)	76	Field Study	Netscape Browser
Straub et al. (1997)	142	Field Study	Email
Wiedenbeck & Davis (1997)	173	Lab Study	Word processor
Agarwal & Prasad (1998a)	76	Field Study	Software Packages
Agarwal & Prasad (1998b)	175	Field Study	World Wide Web
Bajaj & Nidumolu (1998)	25	Lab Study	Software Packages
Doll et al. (1998)	902	Lab Study	Spreadsheet, database
Dias (1998)	79	Field Study	Microcomputers
Dillon et al. (1998)	78	Field Study	Tax Preparation S/w
Gefen & Keil (1998)	196	Field Study	Expert System
Green (1998)	31	Field Study	Software Packages
Loh & Ong (1998)	84	Web survey	Online Trading System
Lu & Yeh (1998)	90	Field Study	Buss. Process Re-Engg.
Rose & Straub (1998)	274	Field Study	Personal Computers
Al-Gahtani & King (1999)	329	Field Study	Spread sheets
Agarwal & Prasad (1999)	230	Field Study	Personal Computers

Study	Sample Size	Study Type	System Type
Brosnan (1999)	147	Lab Study	Word processor
Dishaw & Strong (1999)	60	Field Study	S/w maintenance Tool
Hu et al. (1999)	408	Field Study	Telemedicine technology
Karahanna & Straub (1999)	100	Field Study	Email
Karahanna et al. (1999)	268	Field Study	Operating system
Lucas & Spitler (1999)	131	Field Study	Work Stations
Phelps & Mok (1999)	54	Field Study	Intranet
Schaik (1999)	19	Field Study	Smart Card
Teo et al. (1999)	1370	Web survey	Internet
Venkatesh (1999)	215	Lab Study	Virtual Workplace Sys.
Agarwal & Prasad (2000)	71	Field Study	C Programming
Agarwal & Karahanna (2000)	288	Field Study	WWW
Anandarajan et al.(2000a)	80	Field Study	Internet
Anandarajan et al.(2000b)	88	Field Study	Personal Computer
Gefen (2000)	135	Field Study	MRP-II Systems
Gefen & Straub (2000)	217	Lab Study	Online Book Shop
Jiang et al. (2000)	335	Field Study	Internet
Karahanna & Limayem (2000)	211	Field Study	E-mail
"	173	Field Study	Voice mail
Kucuk & Arslan (2000)	148	Field Study	Web Marketing Tools
Lederer et al. (2000)	163	Web survey	World Wide Web
Lin & Lu (2000)	139	Lab Study	World Wide Web
Lou et al. (2000)	385	Field Study	Lotus GroupWare
Lucas & Spitler (2000)	41	Field Study	Broker Work Stations
Roberts & Henderson (2000)	108	Field Study	Information Technology
Ridings & Gefen (2000)	148	Field Study	Software Package
Venkatesh (2000)	282	Field Study	Software Packages
Venkatesh & Davis (2000)	156	Field Study	Software Packages
Venkatesh & Morris (2000)	342	Field Study	Software Package
Wober & Gretzel (2000)	77	Field Study	Decision Support Sys.
Al-Ghatani (2001)	324	Field Study	Spreadsheet
Bhattacherjee (2001)	172	Web survey	Online Brokerage Servic
Chau (2001)	360	Field Study	MS Word, Excel, Access
Chau & Hu (2001)	421	Field Study	Telemedicine Tech.
Childers et al. (2001)	540	Field Study	World Wide Web
Handy et al. (2001)	102	Field Study	Healthcare Database
Horton et al. (2001)	386	Field Study	Intranet
"	65	Field Study	Intranet
Lu et al. (2001)	108	Lab Study	Decision Support Sys.
Mathieson et al. (2001)	401	Field Study	Bulletin Board System
Moon & Kim (2001)	152	Field Study	World Wide Web
Pijpers et al. (2001)	87	Field Study	Software Packages
Plouffe et al (2001)	172	Field Study	Smart Card
Riemenschneider & Hardgrave (2001)	85	Field Study	CASE tools
Townsend et al. (2001)	64	Lab Study	Desktop Video Conf.
Aladwani (2002)	387	Lab Study	Online Book Store
Anandrajan et al. (2002)	143	Field Study	Microcomputers
Benamati & Rajkumar (2002)	10	Interview	Outsourcing
Brown et al. (2002)	107	Field Study	Comp. Banking System
Chau & Hu (2002a)	408	Field Study	Telemedicine Tech.
Chau & Hu (2002b)	408	Field Study	Telemedicine Tech.
Chen et al. (2002)	253	Web survey	Virtual Store
Dabholkar & Bagozzi (2002)	392	Lab Study	Self- Service Technology
Dasgupta et al (2002)	60	Lab Study	Group Support System
Devraj et al. (2002)	134	Web survey	Online Shopping
Gentry & Calantone (2002)	200	Field Study	Virtual Store
Hong et al. (2002)	585	Field Study	Digital Library
Koufaris (2002)	280	Web survey	Online Book Store
Liaw (2002)	260	Field Study	World Wide Web
Lowry (2002)	185	Field Study	Building Mgmt. System
Riemenschneider et al. (2002)	128	Field Study	App. Develop. Method
Schaik et al. (2002)	49	Lab Study	Clinical Support System
Seyal et al. (2002)	166	Field Study	Internet
Stafford & Stern (2002)	329	Field Study	Online Auction Website
Suh and Han (2002)	845	Web survey	Internet Banking
Thong et al. (2002)	397	Field Study	Digital Library
van Dolen & de Ruyter (2002)	198	Lab Study	Moderated Group Chat
Vankatesh et al. (2002)	215	Lab Study	Software Package
Choi et al., (2003)	2291	Web survey	Interactive TV

Study	Sample Size	Study Type	System Type
Featherman and Pavlou (2003)	395	Lab Study	Electronic Billing Service
Gefen (2003)	179	Web survey	Online Shopping Mall
Gefen et al. (2003a)	213	Field Study	Website
Gefen et al (2003b)	317	Lab Study	Online Book store
Hackbarth et al. (2003)	116	Field Study	MS Excel
Hardgrace & Johnson (2003)	150	Field Study	OOP Develop. Software
Hardgrave et al. (2003)	128	Field Study	S/w Develop. method
Heijden (2003)	825	Web survey	Web Portal
Henderson and Divett (2003)	247	Web survey	Web Store
Hu et al. (2003)	138	Lab Study	Power Point
Lee & Lee (2003)	130	Web survey	Online Store
Lee et al. (2003a)	31	Field Study	Black Board Systems
Liaw and Huang (2003)	114	Field Study	World Wide Web
Lim (2003)	n/a	Field Study	Negotiation Sup. Syss
Lu et al. (2003)	n/a	Field Study	Wireless Internet
O'Cass & Fenech (2003)	392	Web survey	World Wide Web
Olson and Boyer (2003)	416	Field Study	Online Retailer
Pavlou (2003)	102	Lab Study	Online Retailers
"	155	Web survey	Online Retailers
Riemenschneider et al. (2003)	156	Field Study	IT Adoption
Selim (2003)	403	Field Study	Course related Websites
Suh and Han (2003)	502	Web survey	Internet Banking
Sussman and Siegal (2003)	63	Field Study	Comp. Mediated Advice
Teo et al. (2003)	69	Lab Study	Virtual Communities
Venkatesh et al. (2003)	348	Field Study	Workplace Technologies
Yi and Hwang (2003)	109	Web survey	Black Board Systems
Shih (2004)	212	Field Study	World Wide Web

Source: Yousafzai et al., 2005

Appendix 5.1

Focus Group: Call for Participations

July 9, 2003

Call for Volunteers to Participate in Focus Group Discussions

Dear Internet Shoppers,

Focus group discussion is rather an informal meeting where you will be asked to share your views, experiences and feelings among group members facilitated by the researcher on a predetermined issue. The discussion will be recorded to gather further details.

Accordingly, I will conduct a group discussion on <u>Internet Shoppers</u> related to the behaviour of virtual shopping activity. The group discussion will take no longer than 1½ hours divided into two (2) homogenous groups preferably taking place in an informal ambiance as well. Therefore, I propose the discussion to be held at:

Room P25, Aberconway Building
Cardiff Business School
Colum Drive
CF11 3EU
Cardiff

On the following schedule:

4.30 – 6.30 pm (Group 1 - female) Saturday, July 12, 2003
4.30 – 6.30 pm (Group 2 - male) Sunday, July 13, 2003

I need your confirmation to participate a.s.a.p by phone or e-mail not later than <u>July 11, 2003</u>. As an appreciation of your contribution, you will be paid £10 at the end of discussion.

I look forward to seeing you soon and if I can be of any further assistance, please let me know. Your suggestions and ideas will positively helping me in many ways.

Thank you very much.

Yusniza Kamarulzaman
CARBS
Tel: 029 20912557 / 078 17903608

Appendix 5.2

Focus Group: Discussion Procedures

Welcome and thank you so much for your support on the group discussion. Here are some guides for the effectiveness of this discussion.

☺ Before the discussion starts we need your formal consent by filling up the given form (Form A)

☺ You are encouraged to give as much feedbacks on questions that are relevant to your experience.

☺ This discussion requires everyone to participate and speak freely; preferably only one person speaks at a time to avoid missing the important points.

☺ The is no right or wrong answers to the questions as answers are totally based on participants' opinion, feel and experiences in using Internet shopping.

☺ What the moderator knows or thinks is not important, the most important is what the participants think and feel.

☺ Different views among participants are acceptable as the moderator does not expect everyone to anonymously agree on something unless they really do. However, it is interesting to know the different views.

☺ The session will be video taped as the moderator would like to concentrate on the conversation and no need to take notes.

☺ Refreshment will be served at the end of the session however you can have the drinks in between.

☺ Don't forget to claim your reward before you go off by filling in a receipt form (Form B).

Enjoy the discussion....!!!

Appendix 5.3

Focus Group: Discussion Guide

INTRODUCTION (5 minutes)

TOPIC 1: TYPE OF PRODUCTS & INTENSITY (7 minutes)
  ■ Ask about the products they had purchased online.
  ■ Frequency of shopping, time spent on the Internet, level of users.

TOPIC 2: REASONS FOR SHOPPING (10 minutes)
  ■ What make them purchase online?
  ■ Advantages and disadvantages of shopping online.
  ■ Prompts: *Convenience/ price/ offers/ easy/ privacy
                 *Fit lifestyle/ skill/ user friendly

TOPIC 3: COMPARE TO REAL SHOPPING (8 minutes)
  ■ Compared to real shopping which one is preferable? Why?
  ■ Prompts: *Convenience/ price/ offers/ easy/ time / demo
                 *Enjoyable/ entertain/ personal/ impersonal

TOPIC 4: INTERNET SHOPPING EXPERIENCE (15 minutes)
  ■ 1st experience shopping online? Perception?
  ■ Satisfy vs. dissatisfy
  ■ Good vs. bad experience
  ■ Shopping process
  ■ In what circumstances do they normally shop online?
  ■ Prompts: *Impulsive purchase / emergency purchase
                 *Time constraints/ not available in shops / fast delivery
                 *Cheating, fraud possibilities

TOPIC 5: ADOPTION (8 minutes)
  ■ Who introduce/ suggest them to shop via the Internet?
  ■ How long they decided to try / to shop online?
  ■ Do they also influence / suggest to other people to shop online?
  ■ Possibility to continue purchase online in the future?

TOPIC 6: RELATIONSHIP (15 minutes)
  ■ How do they judge the website taking the role of a shop?
  ■ Prompts: * Satisfy/ attractive/ interactive/ personalize/ customize
                 *Popularity of brand names
                 *Trustworthy
                 *Communication
  ■ Do they stick only to a website for a product category?

TOPIC 7: WEB TOURISM PRODUCTS (10 minutes)
  ■ Ask about awareness of tourism products on the Internet.
  ■ Have they ever received any offers about those products on their e-mail?
  ■ What do they think?
  ■ Prompts: * Worth/ Not true/ cheap/ ignore/ trust
                 *Differences with other product category
  ■ Intention to purchase tourism products online?
  ■ If they had purchased what is their overall evaluation?
  ■ Prompts: *Worth/ cheap/ satisfy/ trust/ repeat purchase
                 *Service better or worse than expected?

TOPIC 8: SCENARIO (10 minutes)
  ■ Present the participants a scenario while browsing the Internet looking for a holiday package, suddenly an advertisement pop-up, offering fantastic city break packages. The offers written "EXCLUSIVE CITY BREAK OFFER" (see Appendix 5.4). The offers include Eurostar ticket and 2 nights in a 5-star hotel. If they have never been to the places, what would they do?
  ■ Why?

SUMMARIZING AND CLOSING (2 minutes)
TOTAL TIME TAKEN : 90 MINUTES

Appendix 5.4

Focus Group: The Scenario of Online Travel Offer

Exclusive City Break Offer

Indulge in a luxurious break with Eurostar. Choose your own 5* hotel and departure times for extra flexibility.

BOOK BEFORE 27TH FEBRUARY 2004

Picturesque Paris breaks

2 nts from £65
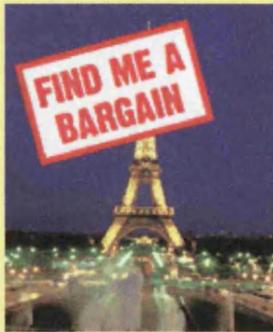
Disneyland® Resort Paris breaks

2 nts from £98
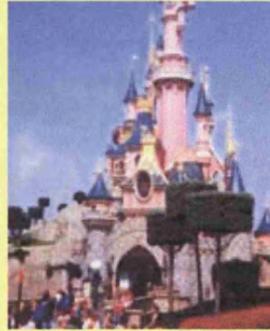
Historic Brussels breaks
2 nts from £63

Beautiful Bruges breaks
2 nts from £79
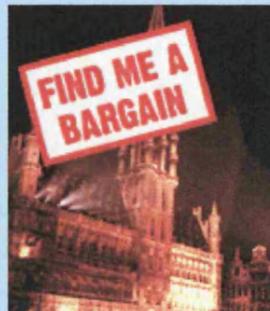
Appendix 5.5

Focus Group: Receipt of Payment

Date: _____

Receipt No. _____

Group No. _____

Participant No. _____

Re: <u>Focus group discussion on Internet shopping</u>

To be completed by participant

I _____ *(full name)* hereby acknowledge that I have received the amount of £ 10.00 in cash as a payment for my participation in the above mentioned discussion.

_____

Participant's Signature

_____

Researcher's Signature

(Yusniza Kamarulzaman)

Appendix 5.6

A Focus Group Report on Internet Shoppers' Experience

Introduction

Internet selling has the advantage of being available 24 hours a day, 7 days a week for consumers to purchase their needs. The widespread availability of fast delivery within 24 hours or 48 hours from door to door has also enabled quick purchase turnaround. Consumers today have less time to shop, and this is supposedly what they are looking for. Combining all of these advantages with a borderless market, web marketers now have the opportunity to reach their target market worldwide, which might increase their profitability.

With its superiority, Internet shopping allows consumers to search quickly and cheaply. Through the Internet, it is easy for consumer to find products that uniquely match their tastes and budgets, and they are able to do so from the comfort and security of their own homes. In addition to that, the Internet offers shoppers access to alternatives, and the ease with which the quality and prices of the alternatives can be compared is a further advantage. As a result, a general increase in the amount of searching going on in all kinds of markets has been found in many web reports.

This development has offered a new way of acquisition, which represents an innovation to consumers. By definition, an innovation is 'an idea, practice, or object that is perceived as new by an individual' (Rogers, 1995: 11). There are also other studies on innovation adoption (Kaplan, 1991; Van de Van, 1993; Clark and Staunton, 1994), and this phenomenon has been widely used to explain the adoption of information technology related products. The five dimensions of complexity, compatibility, observability, trialability, and relative advantage proposed by Rogers (1995) are considered to be the main driving forces of Internet shopping adoption. However, this research has set out to try to find out whether they are among the motivational factors for adoption. In particular, this study explores the dimensions that influence adoption and their relevance to the service industry; an industry that is highly driven by information and communication technology, where intangible or symbolic products could gain tangibility online.

Objectives

This study aims to explore factors contributing to customers' adoption of Internet shopping. Specifically, the research aims gain understanding on the following issues:

- To determine the factors that affect consumers' adoption of Internet shopping.
- To evaluate the varying degrees of importance of these factors in affecting consumers' adoption of Internet shopping.
- To determine the perceived adoption characteristics that could influence consumers' adoption of Internet shopping.
- To identify underlying dimensions that can be used to explain customers' adoption of such services.

The results will provide an indication of a good Internet service and website features and design that are most likely to attract and retain existing adopters.

Research Approach

As the study aims to gain an understanding of motivational factors that affect the adoption of Internet shopping, qualitative research methods were employed. As stated by Maignan and Lukas (1997), qualitative methods are useful to gain a rich understanding of Internet users themselves (p. 347). The best way to find out about motivation is by inferring the causes of behaviour from people's thoughts and actions (Silverman and Zukergood, 2000). This could involve getting them to talk, in an atmosphere of psychological safety, about what they do and why they do it and how they feel about what they do. The best laboratory for this is likely the focus group.

Twelve respondents in total were recruited equally across gender, to see whether there were any dissimilarities in terms of reasons for adopting online shopping. These approaches were chosen because homogeneous groups tend to promote more intense discussion and freer interaction (Cooper and Schindler, 1998). Respondents were recruited on a voluntarily basis amongst postgraduate students from various departments of Cardiff University. The target population of the sample was chosen due to their purchasing power – most of them hold credit cards - and the fact that they are computer literate. In order to ensure that the respondents qualified to the requirements of the study, a screening process was conducted prior to recruitment. The selected respondents had to be Internet shoppers who had shopped on the Internet at least 5 times and completed these transactions via the Internet, with at least 1 year's experience of online shopping. Ages for the sample ranged from 23 to 45. Consequently, 'real' Internet shoppers were selected as respondents, in conjunction with their actual online shopping experience rather than their perceptions or feelings. This is considered realistic, as it allowed the discussion to focus on the adoption of Internet shopping rather than the intention to buy online.

Closed and open-ended questions were used in the discussion, to allow the collection of both standardised and unanticipated responses (Chisnall, 1997). The discussion topics contained issues relating to the types of products, reasons for shopping, shopping experience, comparisons to real shopping, advantages and disadvantages of Internet shopping, web features and relationship marketing. Respondents were asked to give feedback based on their previous experience in buying things via the Internet. To make the participants feel involved during the discussion, there were also questions that needed reflection, choices, rating scales and situational feedback, which is presented at the end of the discussion.

Findings

The findings suggest motivational reasons that make consumers adopting Internet shopping and subsequently the issues that constitute relative advantages of purchasing via the Internet. Relative advantage is positively related to adoption as compared to other perceived adoption characteristics. It represents 'the degree to which an innovation is being perceived as better than the idea it supersedes' (Rogers, 1995: 212). Generally, the research obtained very good and positive feedback on the advantages that the respondents gained in adopting Internet shopping. The relative advantages appear to be significant to the diffusion of Internet shopping innovation. However, the reasons for adoption varied depending on the types and nature of products, time, price, promotions and needs during the course of the buying process.

In reporting the results of the focus group discussion, the findings have been grouped according to topics that have the most agreement (group consensus) and dissenting views. Findings are organized by issues on similarities and differences, either by groups or individuals, to establish links to the research questions.

Price

All respondents expected web retailers to offer lower prices, and this is the main reason why they shopped via the Internet rather than engaging in 'real' shopping. Choudhury et al. (1998) mention that in some cases, electronic markets help buyers to find better prices, while Clemons et al. (2002) report that there is wide price dispersion, not just lower prices in the online travel agent market.

The price search behaviour of the Internet shoppers was positively supported here:

'The offers sent to me via e-mail updates from the web retailers were amazing.....I always look forward to those kinds of e-mails...' (male)

'Yes.....I'm very concerned about the offer price......especially pricing on the Internet' (female)

'I know I could find the best prices that are much cheaper than those offered in the high street shops ......that's the beauty of Internet shopping and it's really worth the effort...'(female)

'I can assure you of that! The Internet quotation is lower than the walk-in rate for a hotel room......you should look for an Internet Café for hotel booking ...even when you have just arrived in front of a hotel....'(female)

Some respondents revealed their motivation to search for price information, which indicates that they are becoming more sensitive to price.

'After getting price information from the Internet ...I will normally go to shops to compare the price...mostly the Internet offers better' (male)

'Sometime I spend all day browsing every website that sells the same products......I can tell you the prices are varied' (female)

'I'm lucky as I paid only £50 for a hotel room in London last week through Internet booking ..... the actual price at the hotel is £90 anyway....it's really worth the effort, I guess' (female)

Some gave different opinions on the issue of cost.

'For the sake of convenience......sometimes I don't mind paying extra charges' (male)

'I think you've got to consider the postal charges on top of the offer price...which end up more than the market price' (female)

'Yes, I do, I've been so meticulous on the charges.... otherwise I won't shop online' (female)

'I would rather buy from the shops if they charge me the same......' (male)

The power of pricing and promotion was seen as a vital reason for Internet shopping adoption. Internet shoppers felt satisfied that they could get the best bargains for the amount of time that they spent on gathering information and making comparisons of products and prices. Internet markets can increase consumers' motivation to search for price information and are becoming more sensitive to price. The view that motivation is required to process information is consistent with Bettman and Park's (1980) theory that price searching depends on both one's ability and one's motivation. Shankar et al. (1999) suggest that among online-related factors, the perceived

depth of information on the site, the interaction between content and depth of information, the relative ease of the search process, and the range of available product and price options are likely to impact on price sensitivity.

A better understanding is needed of the factors that influence online price searching. This is an important issue, as the ability to gather price information and make comparisons between sellers is viewed as one of the keys in defining and maintaining the competitive advantages of Internet marketing.

Convenience

Previous scholars have defined convenience in terms of saving time and effort, including physical and mental effort (Williams et al., 1978; Nickols and Fox 1983). Thus, these attributes of convenience, which have long been important to consumers, are now found in the new innovation of online shopping. In particular, web-based purchasing is the ultimate in time saving, effort saving, availability and accessibility.

All respondents have no doubt about the convenience of conducting transactions online. The groups of existing Internet shoppers also suggested that convenience was also the reason why they shopped on the Internet. They talked about various dimension of convenience.

Most value their **time and effort**:

'I can get rid of queuing and waiting..... saves me a lot of time' (male)

'Online shopping is just like one stop shop, everything is there ..... no travelling time, no parking required, no hassle...I really appreciate the technology' (male)

'...the time management is becoming better...as I could do a lot of things during weekends when previously I used to go out survey prices before buying expensive things... now the Internet is there to do the searching and comparing' (male)

'I have more time with my family now.... I can shop anytime and anywhere I like' (female)

'I agree with you, in my case I could easily compare hotel rates or even vacancies without have to walk-in to every hotel...oh I can't imagine that...what a hassle' (female)

'My husband always complains when it comes to parking....not to mention the unreasonable charges, the parking spaces themselves are hardly available during weekends....that's the only time we have for outings' (female)

'Yes...I totally agree, hassle, petrol, parking charges are indirectly....increasing the amount we pay for the things we buy....isn't it?' (female)

Saving time actually means reallocating time across activities to achieve greater efficiency (Feldman and Hornik 1981), while the term 'effort' has been viewed as a relevant and positive input to an exchange (Oliver and Swan 1989). Time and effort are actually non-monetary costs to consumers, and these aspects have been concerns when they moved to Internet shopping.

The respondents' expectations also highlighted the issue of **availability** in different aspects, such as the availability of information, products, choices, stores and so on.

'Some products you couldn't find in the shops...like sports items, technical equipment, large and advanced scale machineries....you have no choice but to go online' (male)

'My previous boss always asked me to get quotations for new equipment online' (male)

'Nowadays, you can get everything on the Internet...you just name it' (female)

'..If I were to name the models......there are thousands of product lines and mixes available ...... we also could ask for customization of the order' (male)

'The Internet makes it difficult to choose the best, due to loads of choices and alternatives...' (female)

'...the Internet service is available everywhere though...we could access product information anytime....' (male)

'...prior to booking, don't forget to check whether there are seats available at your departure and return flights...... which you could do on your computer' (male)

'.....how many of us know that in some airlines, we could select our seat number....first come first served basis... and we could just click the in-flight meal menu....the customer is king, dear....' (male)

These quotes show that the Internet is perceived to be a potential source of inventory and references when the local offline store is out of stock or has no information about a particular product. Importantly, the respondents see the web as a place where they expect to find selection and flexibility, or even product customization. On the other hand, **accessibility** of the store in terms of location and hours of availability was also found to be significant to this study; these aspects have been included in some conceptualizations of convenience, such as in the work of Corby (1994) and Yale and Venkatesh (1985). Some respondents are quite involved on this issue:

'.....I'm even purchasing from sellers outside the UK ...the website has really made it easy for me to purchase' (female)

'If I purchase products from the US... I really make use of the currency converter....anyway the prices are almost the same....' (male)

'.....the hotel chain website was so helpful ....I could access a pool of information on hotels around the world within a few clicks... or even view them before making my booking' (female)

'.....but for me, I prefer to go via tourism portals which I could place my priority and choices...... then they do the matching to produce the best offer for my requirements...I consider it as a shortcut....' (female)

'It was so easy...at the end of the transaction ... all I had to do was just print out the receipt and confirmation instantly.... It's fast and easy' (female)

'I did try to send a bouquet of flowers to my mum last mothers' day....I ordered from an online florist's website in my home country...and it worked...my mum was so surprised.....' (female)

The fact that the Internet shoppers fully utilize and enjoy the convenience of Internet shopping has been observed here. Another aspect of the importance of accessibility of information to customers involves the interactivity and features of retailers' websites, which will be discussed in a later sub-topic.

When the respondents were asked to compare and contrast their experience of Internet shopping and real shopping, they responded positively:

> *'Discounts offer in shops are normally for old stock items that are out of fashion, but on the Internet you can get new arrival design with a discount price ..isn't it worth it?' (female)*

> *'I simply don't like to go out shopping' (male)*

> *'I can still survive without going out shopping' (male)*

The **entertainment** (enjoyable) aspect of shopping, which refers to the physical process of going round looking at products with family and friends, may be very difficult to duplicate online (Molesworth and Suortti, 2002). Here is some of the respondents' feedback:

> *'I still get enjoyment through browsing and searching for information. For me, it could replace the enjoyment of offline shopping' (female)*

> *'I don't miss the enjoyment of real shopping as I still go shopping for other products like apparel products; I purchase only certain products online' (female)*

> *'I truly have much enjoyable time when browsing...... with the music on ...and colourful websites' (male)*

> *'I still enjoy going down to a few outlets, getting a close view of products that I intend to buy online....' (male)*

> *'Yeah, Internet shopping is much fun....I enjoy the excitement of bidding at Ebay....I get hooked on the site' (male)*

> *'Well, I've been browsing a lot...just like going out and walking around...it is like a hobby now' (male)*

As shopping is widely regarded as a major leisure-time activity, the Internet shoppers expressed that they still were enjoying their leisure-time Internet shopping in a similar way to conventional shopping. The males particularly enjoyed auction websites, hobby-type websites and bargain websites. As for the females, they seemed to enjoy a combination of online and offline shopping, checking out offline stores for certain product categories. Thus, they could touch or try on merchandise before buying online, or look for product information and pricing online before purchasing offline. The respondents' experience supports Wolfinbarger and Gilly's (2001) study, where online experiential shopping is associated with specific benefits: surprise, uniqueness and excitement; positive sociality; online deal searching; and involvement with a product class.

Control and Privacy

The primary relationship of online shopping is not between the seller and buyer, but rather between the buyer and the mediated environment (Hoffman and Novak, 1996). Internet buyers largely appreciate the lack of people while they are shopping; they do occasionally want help, but they want that help to be at their request and to be responsive to their individual needs.

Many of the respondents seemed dissatisfied with the role of sales people and the pressure received from them.

'You know that when you go into the agent's outlets, even if you are only looking, that the salesman will put pressure on......by asking you your budget, your vacation destination, while offers last. If you don't know what you are talking about you will be in a trap ...... (male)

'I would rather search for the information that I need from websites than ask questions to salespeople........ they seem to be biased, normally' (male)

'In my case, I'd most likely go first to the Internet to find information and get enough knowledge of the products. Sales-men could tell you anything to get their product sold rather than being objective and truly helpful'. (male)

'One of the reasons I go online is to avoid facing sales people...... I just could not refuse them.......that's my problem' (female)

'...salesmen always change my decision....I'm so irritated with them' (female)

In addition, some of the respondents focused on the freedom and privacy of shopping via the Internet.

'...when I walk in to a travel agent ...I've got to project a better image from my appearance... otherwise they won't entertain me....especially the big ones' (male)

'.......as they are biased in entertaining customer; they might think that we are not genuine buyers from our appearance......at home I'm myself ......nobody knows who I am and I get equal treatment' (male)

'I want some privacy when I'm shopping.....that makes my choice better' (male)

'I feel free to shop as nobody will influence me' (female)

'Yes...no forcing...no pressure no stress.....isn't that cool?' (female)

'I have more privacy in choosing products without being influenced by salesperson.' (female)

Surprisingly, it turns out that the Internet shoppers largely like the absence of social interaction while buying online. Moreover, the ability to find what they need and to complete a transaction without having to go through a human being is associated by online buyers with increased freedom and control. According to Wolfinbarger and Gilly (2001), the absence of retail workers is appreciated for two reasons: salespeople are often perceived to be unhelpful or uninformed, and they pressure or obligate buyers. Ellen et al. (1991) found that the behaviour of salesmen was a strong driver for dissatisfaction with existing processes (conventional shopping). This generated a motivation to avoid the traditional pressure-orientated sales situation.

In addition, there is a further advantage in terms of shoppers' buying effort, as they do not need to conform to the social practices of grooming and acceptable behaviour. For instance, some of the respondents mentioned specifically that they could shop even in their underwear (not necessarily that they actually did). Shopping online provides buyers with an environment that is comfortable and personalized for them - their own homes. Importantly, the qualities of accessibility and convenience are often related to control and freedom; in fact, the focus group participants used the words "freedom" and "privacy" to describe the experience of shopping online.

Trust, Security and Risk

Trust and security are two vital elements that could reduce consumers' perceived risk in Internet shopping. According to Cheung and Matthew (1999), trust in Internet shopping is affected by the trustworthiness of an Internet vendor and relevant external environmental factors impacting on Internet shopping transactions. Security includes authenticating business transactors, controlling access to resources such as Web pages for registered or selected users, encrypting communications, and in general, ensuring the privacy and effectiveness of transactions. Among the most widely used security technologies is the Secure Sockets Layer (SSL) which is built into both of the leading Web browsers.

All respondents anticipated the risk of purchasing online. The group of shoppers, however seems to have trust in selling and buying activities via the Internet.

'Normally I just accept the terms and conditions without reading them...I know it is risky...but I trust them.' (male)

'I have to build up my trust in the system...after all, payment systems are so advanced nowadays .... I could print out my transaction record though' (male)

'I trust the payment system very well...even though I do not know what Pay Pal, E-wallet, SSL and other jargon are...I couldn't be bothered...' (male)

'If you realise there is a 'padlock' icon every time you enter the secured pages....are you alert to this? (male)

'I check my credit card no. several times after keying it in....but I seldom read the terms and condition due to time constraints' (female)

'....to be frank, I trust the system more than humans....' (female)

'I agree with you, in revealing my credit card no. I have more trust in the machine rather than salespeople' (female)

'I have heard very rare cases of Internet transaction disputes....you have to be careful of your password and credit card number...' (female)

'I prefer to pay via Internet banking by transferring money to the seller's account, which I feel is more secure' (female)

'Before we complete the payment, there are always a few pages asking for password again and confirmation....this makes me feel secure' (male)

'Friendliness in terms of payment methods (flexible) might be useful to me' (male)

Based on the responses, this could be considered as quite an important issue for Internet shoppers. A study by Jarvenpaa and Todd (1997) indicates that in the context of e-business, consumers perceived personal risk (misuse of credit cards etc.) to be the most significant of overall

risks. However, they conclude that security issues are not stopping people from conducting online shopping. Furnell and Karweni (1999) support this, as their results also indicate that security issues were a significant concern among online shoppers. Here, the barrier goes beyond security.

Most of the focus group participants said they feel secure in dealing with websites that they had dealt with before, or with popular websites.

'I feel secure doing transaction with big companies like Amazon.com' (male)

'I have 100% trust in the E-bay system...I've never had problems either buying or selling' (male)

'I always try to make sure that I've seen the firm previously on the Internet ... I do prefer those [click-and-mortar companies], because then they are a proper company, aren't they? ... (male)

'The reputation of the company is important to build up my trust and security' (male)

'I don't know why...but I trust International companies more...isn't that bias?' (female)

'We trust the website because many people have purchased from those website' (female)

'I tend to put more trust in well-known brands compared to buying non-branded goods' (female)

The findings seem to support the dimensions of trust in an Internet vendor proposed by Chen and Dhillon (2003). They are competence, integrity and benevolence. Competence refers to a company's ability to fulfil promises made to consumers. Integrity suggests that a company acts in a consistent, reliable and honest manner. Benevolence is the ability of a company to hold consumer interests ahead of its own self-interest and indicates sincere concern for the welfare of the customers.

Apart from that, the respondents also highlighted the risk associated with **delivery** problems:

'...undelivered items....is the most risky part...but it's very rare case' (male)

'The delivery time is during office hours.....I've got to deliver by myself...' (male)

'Paying the additional charges is always my concern...packaging, shipping, postage and VAT....' (male)

'.You can return things....but it's a hassle and additional cost to send it back' (male)

'I've received items which I didn't order but I managed to return it.' (female)

'I'm not sure when the merchants will send me the product...had to call them to check.' (female)

' ...the pictures on the computer look better than the actual thing' (female)

The respondents expressed dissatisfaction with the present delivery times and fulfilment when buying via the Internet. Organising the delivery of a product bought from the Internet, however, was perceived to be even more complex and therefore the relative advantage in this area was seen as difficult to achieve. According to Gupta and Chatterjee (1997) consumers decide whether to conduct acquisitions online or off-line on the basis of, among other things, the speed and cost of shipping and delivery.

This phenomenon has been also highlighted in a study by Pricewaterhouse Coopers (2000) which found that 41 per cent of online purchasers have wanted to return a product purchased from an online shopping site, but decided it was too complicated a task to go through. The respondents' concerns about delivery and return policies could be a source of resistance to continuous adoption.

Personalization

Personalization is viewed as helpful to customers when it refers to features that increase the sense of user control and freedom, including order tracking, purchase histories, saving information for quicker transactions during future sessions, and opt-in e-mail notification of new products and special deals (Wolfinbarger and Gilly, 2001). Generally, the respondents said they had customized experiences when they revisited sites where they had previously registered. They also received updated e-mails or newsletters, especially on the latest product offers. However, the ways in which they reacted to those personalization features varied:

'I always get the priority to grab new offers compared to non-registered users…… The promotional news is sent to the member in advance' (male)

'I don't ignore the updates as it's important to me to know the newly launched products of my favourite website.' (male)

'As a member of a website, every year I receive a free night at a hotel as a birthday gift from the leisure holiday company……I appreciate that very much' (female)

Many highlighted the issuer of junk e-mails.

'..for me it's not big deal…just unsubscribe them…' (male)

'I purposely install software to filter those junk mails….' (male)

'I get so annoyed when receiving spam and unsolicited e-mail…they bring in viruses sometimes….' (female)

'I'm not interested in reading junk mails…I just delete them ' (female)

' ..it depends on the companies who send the e-mail…I seldom open it…if it's valuable information sometimes I forward to my colleagues..' (female)

'Yeh! You are one of them who make my mailbox full…' (female)

Nevertheless, there are some indicators showing that the respondents do worry about the information given during their purchases.

'…do you guys anticipate that our personal information or so called database will be shared by other parties?' (male)

' …they distribute your information all around so they know you even before you know them.' (male)

'……to what extent can we control them….. even they claim that is just for record purposes.' (female)

'I received reminders every week before my car insurance expired...not from the current one but from other insurance companies...wonder where they got my e-mail...?' (female)

This result is not surprising, given the earlier responses about junk mail and other unsolicited mails received by the respondents. However, their anxiety appears to be offset by the advantages they gain from Internet shopping.

On the other hand, personalization would not make the respondents stick to a particular website. The following quotes show their response to the acceptance of personalization.

'I feel happy as every time I log on, my name is there' (male)

'So...it must be influencing your decision to buy' (male)

'..oh no....I'm still looking for better bargains by browsing other marketers' links' (male)

'I would probably shift to other websites for purchasing if their offers were more worthwhile, regardless of the customization that I received from the registered website' (male)

'On some websites, we could customize the colour scheme to make us feel better while browsing....' (female)

'I'm still comparing the price even I'm a registered member of the website' (female)

Overall, the online buyers participating in the focus groups appreciate the online customization service that they receive. This confirms the findings of Gallagher et al. (2001), where the Internet users value the enhanced communication capabilities of the Internet and evaluate websites that do not live up to that expectation more negatively than ones that do.

Web features

Today, web retailers are eager to incorporate attractive features into their sites to encourage visitors to stay longer and visit more often. In actual fact, web customers are not likely to make the effort to click or look for the features, as long as they can find the information they want, make the transaction easily, and have it delivered. Some of their points are:

'Again... I install additional software to block the pop-up menus' (male)

'I don't bother about the attractiveness of a website...the content is more important to me....' (male)

'..A white background is better still..... look at the popular websites like e-bay...isn't it clean and clear....?' (male)

'The most colourful website could attract me to click on it first......but...the quality of information is questionable' (female)

'I like to see catchy animation...but I won't click on it' (female)

Some gave their comments on the features' functions:

'Some e-mail contact provided is not functioning at all...either they ignore it or you get an automated response' (male)

'Even the online chat is hardly available....we could not ask questions through that...by rights, there should be someone sitting there 24 hours for technical support especially.....' (male)

'...I like interactive websites ...... lots of fun while browsing... I've downloaded some attractive wallpapers and games' (female)

'..Uhh those blinking and moving things really slow down my computer and are prone to make it hang...' (female)

For most of them, information, content and interactivity of websites are able to replace the interpersonal contact, as has been discussed earlier.

' I can see....many websites are facilitating users by giving quality information, enough pictures and all the details that are important to customers before purchasing.....' (male)

'The interactivity part makes me enjoy browsing.... but not too many pop ups please...' (male)

'I can still get that information (from salespeople) on the websites. Some websites have even show reviews, testimonials by previous customers' (male)

'I like the FAQ (frequently asked questions) links....as if there is a person giving feedbacks to my questions' (female)

'I feel entertained! Just like shopping at the mall...it's a different experience but with equal satisfaction' (female)

The respondents expected web information to be detailed and attractive to facilitate their shopping. However, the web features do not influence the adoption of online shopping. Some suggested that by visiting portals, they could easily get a wide range of information on promotion and offers and it was quicker than visiting shops to look for deals. The increases in interactivity and intensity were associated with increased feelings of telepresence, which have been shown to create more positive and more enduring attitudes toward web sites (Coyle and Thorson, 2001).

Loyalty

A recent study by Shankar et al. (2003) shows that levels of customer satisfaction for a service chosen online are the same as when it is chosen offline; thus, loyalty to the service provider is higher when the service is chosen online than offline. In most cases, they still browse other websites before the purchase decision, just to make sure they get the best deal or offers:

'I will always start off my search with my bookmarked website (favourite) for the latest offers; only then do I move on to other websites' (male)

'I revisit (loyal) to selected websites because of satisfaction with the fast service, not because of other factors' (male)

' ......I'm not loyal to one website except for services that need renewal like car insurance or breakdown service' (female)

'I'll move to other websites if somebody tells me there are cheaper offers somewhere' (female)

However, the respondents were quite reluctant to use the word 'loyal' even when they visited a particular website frequently. Most of them could be loyal to a brand name, but not to a website. This could be an affect of the rapid development of the Internet technology, where it seems that customers can search out lower prices and defect to competitors with a mouse-click.

Complexity and compatibility

Complexity, defined by Rogers (1995:230) as `the degree, which an innovation is perceived as relatively difficult to understand and use', is negatively related to adoption. Most of the focus group participants agreed that no additional skills were required for executing Internet shopping, as it was not complicated at all. For them, basic ICT knowledge should be sufficient for shopping. However, for the first- time user, familiarity with browsing and searching on the Internet is important.

'For e-bay customers, skills are needed for auction bidding' (male)

'Payment systems knowledge might be important....but you can still shop even though you don't know the details' (male)

'you've got to have a debit or credit card to facilitate your online shopping as 90% of websites will ask for the card numbers....even when you're just booking' (female)

'Online shops' website are purposely made simple for user-friendliness...otherwise they could not make profit' (female)

Apart from that, the respondents faced no problems in adapting to the new way of shopping, either with regard to their culture or social life. It is very compatible with their beliefs, values and practise.

'Why should we reject the innovation...it's good to the society....' (male)

'As long as a computer can access the Internet...It's compatible for Internet shopping' (female)

Compatibility, which is positively related to adoption, refers to the degree `to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters' (Rogers, 1993:224). An example of compatibility with previously introduced ideas is evident in an investigation by Balabanis and Vassileiou (1999) that indicates that consumers with experience from other modes of home shopping are more likely candidates for online shopping.

With regard to **lifestyle and status,** most participants disagreed that Internet shopping had affected their lifestyle but admitted that Internet shopping had improved their time management.

'It is supposed to save my time if everybody in the house adopts Internet shopping....otherwise I've still got to take them to shops' (male)

'.....I still have to go out shopping for other products...it would change if everything could be purchase online, especially groceries' (male)

'It doesn't mean that you are better off if you shop online' (female)

Some may feel better than others who do not use Internet.

'Some people might have different perceptions of online shopping, so we cannot say that it serves as a status symbol' (male)

'I feel much better than my friend who has to queue up to pay bills every month' (male)

'It is just like 'doing things right' versus 'do the right things' - am I right?' (female)

Although the respondents' lifestyle and status were not greatly affected by the adoption of Internet shopping, they become more price-oriented in their buying process. They might be in a 'wired lifestyle', as mentioned by Bellman et al. (1999:34). Consumers with wired lifestyles use the Internet extensively for most of their activities (such as reading news and communicating) either at home or at work. They naturally turn to the Internet to search for product information and buy products and services.

In consensus, they agreed that they didn't bother to find out who had adopted online shopping, as it did not confer any status.

'It is not like those new things where we could see the results' (female)

'No, we could not identify internet shoppers; nobody knows who Internet shoppers are unless they tell us' (female)

'Anybody can be an Internet shopper...how do I know?' (male)

Triability and Observability

Trialability is positively related to adoption and represents `the degree to which an innovation may be experimented with on a limited basis' Rogers' (1995:245). He has recognised that trial is one of the ways of reducing uncertainty related to innovations. Many respondents were aware that online shopping is a real time transaction, which could not be cancelled once it has been completed:

'No, there is no trial session for the shopping activity: once confirmed, it's done. I have to be certain before purchasing' (male)

'When something is physically important, like a dress, you have to try it on and feel how it is ... if it's comfortable enough. It doesn't work on the Internet as far as I can see ...' (male)

'Some times I feel 50-50 before I click the 'confirm' button, as there is no retracting....' (female)

'The trial of products is fine, as many companies provide money back guarantees, return policies etc' (female)

'The demo guide helps me familiarize myself with the steps before purchasing...' (female)

According to Phau and Poon (2000), the ability to trial online acquisitions is an important factor affecting whether a product or service is suitable to be sold online. For example, demonstration versions of software, trial periods of online newspapers or video/music subscriptions reduce the uncertainty in purchase decision and thus stimulate purchases. In respect of Internet shopping, this represents a usage barrier, in the form of the failure of online services to allow test shopping. Ram and Sheth (1989) argue that to some extent, all innovations represent uncertainty, which can lead to consumers postponing the adoption of the innovation until they can learn more about it. This uncertainty can create perceived risk, defined as `the extent to which the consumer is uncertain about the consequences of an action' (Hoyer and MacInnis, 1997: 45).

It has also been noted by Liz and Almeida (1997) that e-commerce services suffer from social distance; in other words, consumers are not able to see others using the service and/or are not able to take part in the social act of using the service. This can be linked to Rogers' (1995) fifth attribute, observability, which is positively related to adoption and refers to the degree to which the results of an innovation are visible to others.

CONCLUSIONS

This research reveals many reasons why Internet users purchase and adopt Internet shopping. Internet shoppers are quite capable to identify and express the relative advantages gained through the new medium of shopping. Pricing has become a prominent factor in adoption compared to convenience, security, privacy, personalization, compatibility, complexity, trialability and observability. Shoppers are also able to evaluate the quality of the service given and the information received. On the other hand, they also expressed their concerns regarding delivery issues, junk mail, web features and information privacy, which might effect their inclination to adopt online shopping. If the behaviour of these Internet shoppers is typical, then the research findings could help web marketers to manage their online customers effectively.

Amongst the benefits that make up the relative advantage of Internet shopping adoption, the findings show that *pricing,* which offers value for money, is the main pulling factor for Internet tourism shopping. Internet shoppers are very receptive to 'offers' and their decision to purchase a product is very often associated with price. Other factors that affected the adoption of Internet shopping are *convenience,* which includes time spent, flexibility, physical effort, etc; *accessibility* to the Internet, the virtual stores and various products choice; *availability* of products and shops regardless of time; *trust* in the system and the web retailer; *controlled buying processes,* which are concerned with privacy in shopping, and *personalization,* which seems to be important in building up relationships with shoppers. Apparently, personalization through web presentation does not have much influence on shoppers' decision-making, but it does facilitate repeat purchasing.

This research also found that most respondents find Internet shopping as enjoyable as the 'real' shopping experience. They feel they are undergoing a similar process as when they are purchasing from the physical outlets. Finally, this study suggests that significant differences exist between the genders in terms of attitude and shopping behaviour. Females seem to act faster than males in responding to web promotions, and yet females still like to go out and do 'real' window-shopping, while males appear to spend less time on actual shopping.

IMPLICATIONS

These findings mean a lot to web retailers today. Whatever the aims are, in order to be sure that the online marketing effort is worthwhile, web retailers have to be proactive at the consumers' end.

In this exploratory study, a few variables from various sources, which are considered as contributors to the adoption of Internet shopping, have served as topics of discussion and might predict consumers' attitudes and feelings towards adoption. These predicted factors are almost all relevant and can help marketers and advertisers to develop more efficient ways to attract online shoppers.

Such discussion topics are very important for most marketers, as Internet consumers have the ability to make comparisons amongst online shops, facilitated by the Internet. The impact of this ability is now beginning to be recognized by most marketers. Internet shoppers' expectations are very much different than those of conventional shoppers. Their concern with online pricing and offers is going to be a problem for web marketers. Anders (1998) states that marketers worry about being forced to lower prices as a way to increase revenue, and profit margins are being sacrificed for short-term gains. The online pricing tactics should be flexible, with continuous price change throughout the year, which could attract web users to keep monitoring the offers. By way of a jump-start, to create awareness of a website and build up its popularity, a web marketer should be ready to sacrifice some profit margin by adopting a price penetration strategy (low price, high visit and high volume of sale).

As Internet shoppers are becoming price sensitive and consequently look for bargains, web marketers need to fine-tune their offerings and provide specific promotions to specific target segments at the individual level in order to stimulate the adoption of Internet shopping. They might need to generate plans to reduce website-switching by investing some effort in initiating an effective implementation of 'relationship marketing' via website facilities. Based on the finding that consumers do not see current personalisation via web sites as cultivating 'relationships', we feel that this raises serious concerns. As we know, many organisations are claiming 'relationship marketing', but if customers are more concerned with a 'continuity of transactions' then rhetoric needs to be replaced with reality. Perhaps web marketers should move beyond developing a basic web page with an address and e-mail contact in providing information to the consumer. While Internet shoppers have a significantly high level of control in their online purchase, web marketers should offer opportunities for consumers to interact with the website through value added features and the provision of on-line customer support. This relationship-building approach could cut through the current cynicism amongst consumers (and, it has to be said, amongst some marketers as well) toward 'relationship marketing' and could bring rewards to both the consumer and the web tourism marketers.

In this new technological environment, trying to build a strong brand is more crucial than ever. The importance of having a recognized brand has been emphasized by Jarvenpaa and Todd (1997), who state that consumers are concerned with the reliability and reputation of the online merchants and due to the lack of information, are drawn to sites with familiar brand names. Successful branding on web sites may be the most effective way for a company to develop trust and thus attract customers to shop and adopt Internet shopping.

Screen–shots of Online Pilot Survey
(http://www.geocities.com/yusniza_72/survey/pilot.htm)

Appendix 5.8

Survey Invitations and Reminder

Response Panel — Make a difference!

Your opinion is valuable!
...and our clients are willing to pay for it

Dear Yusniza Kamarulzaman

One of our customers would like to survey a select group of people. You have qualified the first round of requirements requested by our client, but they need to further filter the list.

The link below will take you to a very short "profiling survey" which should take less than 1 minute to complete. Based on your answers to this survey, we will produce a final list for the main survey.

There are no membership points available for completing profiling surveys, but there will be points for those who make it through this round of requirements and are included in the final survey. There is also an additional incentive for completing the final survey.

Please answer as honestly as possible as the questions in the main survey will relate directly to what is answered in this profiling survey.

Click Here to take the survey

Survey Invitation to Qualified Respondents

Response Panel — Make a difference!

Your opinion is valuable!
...and our clients are willing to pay for it

Dear Yusniza Kamarulzaman

One of our clients has requested that you complete their survey.

Points you will earn: 500

Additional Rewards:
Entered into Prize Draw for £100 Travel Credit sponsored by BmiBaby.com

Survey Name: Internet Shopping for Travel Services Survey

Survey Ref: 2004081901

Customers description:
No additional comment from the customer

Number of questions: 23

Estimated completion time: 10 minutes.

Responses required (1 per respondent): 300

Your points are updated when the survey has been completed by all respondents. We will notify you when the survey has been completed, informing you that your points have been updated.

Please click the link below to access the survey (you may need to copy and paste the link into a new browser window):

http://www.surveyassist.com/cgi-bin/s?l=$xHWQ18fq6EVDNEgV71H&ssp_login=yusniza

Survey Reminder

Response Panel
Make a difference!

Your opinion is valuable!
...and our clients are willing to pay for it

Dear Yusniza Kamarulzaman

You still have a chance to earn points by completing the following survey. We have not yet had all the responses required. If you have not completed this survey yet, please see the details below.

Points you will earn: 500

Additional Rewards:
Entered into Prize Draw for £100 Travel Credit sponsored by BmiBaby.com

Survey Name: Internet Shopping for Travel Services Survey

Survey Ref: 2004081901

Customers description:
No additional comment from the customer

Number of questions: 23

Estimated completion time: 10 minutes.

Responses required (1 per respondent): 300

Your points are updated when the survey has been completed by all respondents. We will notify you when the survey has been completed, informing you that your points have been updated.

Please click the link below to access the survey (you may need to copy and paste the link into a new browser window):

http://www.surveyassist.com/cgi-bin/s?l=SxHWQ18fq6EVDNEqV71H&ssp_login=yusniza

Appendix 5.9

The Survey Questionnaire

A SURVEY ON INTERNET SHOPPING FOR TRAVEL SERVICES

Dear Internet shoppers,

This survey has been designed to study Internet shopping behaviour for travel services. In this survey, we would like to know your experience as an Internet shopper and your views on certain issues with regard to shopping for travel services via the Internet. Your co-operation is important in helping us to learn more about how Internet shoppers actually get involved in Internet shopping.

You will be asked questions concerning your experience of purchasing travel services via the Internet within last twelve (12) months. The questionnaire should not take more than fifteen (15) minutes to complete.

Your survey responses will be strictly confidential and remain anonymous. Data from this research will be reported only in aggregate form, which is meant for academic purposes only.

As a small token of appreciation for your help, we would like to enter your email address into a prize draw for a £100 Travel Credit sponsored by BmiBaby.com. If you wish to enter the draw please state your email address at the end of this questionnaire.

Thank you very much for your time and support.

Regards,

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Yusniza Kamarulzaman
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Please tick ☑ the appropriate box (es) that apply.

1. How long have you been using the Internet?
   - ☐ Less than 1 year
   - ☐ 1 to 3 years
   - ☐ 4 to 6 years
   - ☐ 7 to 9 years
   - ☐ 10 years or more

2. Have you ever bought any of the following products via the Internet?
   (Please tick all that you have bought)
   - ☐ Gifts/ flowers
   - ☐ Books and magazines
   - ☐ Groceries /food / drinks
   - ☐ Electronics and appliances
   - ☐ Music, videos, CDs, DVDs etc
   - ☐ Clothing / accessories/ cosmetics
   - ☐ Business equipments and services
   - ☐ Services (insurance, legal, education etc)
   - ☐ Travel services (hotels, flights, packages, tickets etc)
   - ☐ Computer related products (hardware , software etc)
   - ☐ Home products (furniture, gardening, kitchenware etc)
   - ☐ Hobbies related products (golfing, painting, diving etc)
   - ☐ Telecommunication products (mobile phone, phone cards, top-ups, etc)
   - ☐ Other *(please specify)*_____

3. How important are the following when shopping via the Internet? *(Please tick all that apply)*

	Not at all Important	Not Important	Indifferent	Important	Very Important
Wide selection of products					
Competitive prices					
Convenience					
Shopping enjoyment					
Ease of use					
Security					
Privacy					
Service quality					

4. How long have you been using the Internet to purchase **travel services**?
   - ☐ Less than 1 year
   - ☐ 1 to 2 years
   - ☐ 3 to 4 years
   - ☐ 5 to 6 years
   - ☐ 7 years or more

5. How often do you browse the Internet to find information about **travel services**?
   - ☐ Several times per week
   - ☐ Several times per month
   - ☐ Every 3 months
   - ☐ Every 6 months
   - ☐ Less frequently

6. Thinking about your Internet purchases, from which of the following have you bought **travel services**? *(Please tick all that apply)*
   - ☐ **Web-based Travel Agents** *(e.g. Lastminute.com, ChepFlights.co.uk, Discounthotels.com, Expedia.co.uk, Travelocity.com)*
   - ☐ **Tour Operators website** *(e.g. FirstChoice.co.uk, ThomasCook.com, Portland-Direct.co.uk, British-Holidays.co.uk)*
   - ☐ **Companies website** *(e.g. Marriot.com, Eurostar.com, Bmibaby.com, Britishairways.com)*
   - ☐ **Media website** *(e.g. Travel.Telegraph.co.uk, Guardian.co.uk, BBC.co.uk, Teletext.co.uk)*
   - ☐ **Auctions website** *(e.g. Ebay.co.uk, Qxl.co.uk, eBid.co.uk)*
   - ☐ **Internet Portals** *(e.g. Yahoo.co.uk, MSN.co.uk, Lycos.co.uk, AOL.com etc)*
   - ☐ Other _____ *(please specify)*

7. In the past 12 months, how many times have you purchased the following **travel services** on the Internet? *(Select one in each row)*

	Never	Once	2 to 4 times	5 to 7 times	8 or more times
Accommodation (i.e. hotel, hostel, B&B, caravan, camping site etc)					
Flight ticket					
Train ticket					
Coach ticket					
Ferry ticket					
Car hire					
Vacation / holiday package					
Business package					
Admission ticket (i.e. place of attraction, entertainment etc)					

8. Please indicate the extent to which you agree or disagree with the following statements, taking into consideration your **experiences** of Internet shopping for **travel services**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Internet shopping for travel services gives me greater control over my purchase decision					
Internet shopping for travel services enables me to save my time					
Shopping for travel services via the Internet is more convenient than visiting travel agent outlets					
Internet shopping makes it possible to shop for travel services at my convenience (anytime, anywhere)					
Internet shopping enables me to buy travel services at special rates/ offers					

Using the Internet to shop for travel services can increase my shopping effectiveness					
Overall, I find shopping for travel services on the Internet to be useful					
I find using the Internet for shopping for travel services to be confusing					
It is easy to deal with instructions & menus given on websites while shopping for travel services					
It is easy for me to become skilful at using the Internet to shop for travel services					
I find it easy to search for travel information via the websites I use					
Shopping for travel services via the Internet requires advanced computing skills					
Overall, I find it easy to use the Internet to shop for travel services					

9. Based on your **experience** with Internet shopping for **travel services**, please indicate your level of agreement with each of the following statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The cost of purchasing a travel service on the Internet can end up being higher than expected					
If a travel purchase cost more than, say £1000, I would rather not pay this on the Internet					
The quality of the travel services purchased from the Internet generally does not meet my expectation					
I feel uncertain whether travel retailers are efficient in dealing with sales transactions on the Internet					
Using the Internet to shop for travel services would lead to a loss of privacy					
I am uncomfortable giving my credit card number when booking for travel services on the Internet					
Overall, it is risky to shop for travel services via the Internet					
I trust the Internet reservation/ booking systems when shopping for travel services					
I trust the Internet payment/ transaction systems when shopping for travel services					
I trust that web travel retailers have sufficient expertise to perform business on the Internet					
I trust that web travel retailers keep my best interests in mind					
In overall, I don't trust shopping for travel services via the Internet					

10. *Please select the answer which most closely matches your **feelings** about shopping for **travel services** via the Internet.*
   Example:
   If you feel that shopping travel services on the Internet is IMPORTANT please tick '5' or tick '1' if you feel it is UNIMPORTANT.

   If you feel that shopping travel services on the Internet is SLIGHTLY IMPORTANT please tick '4' or tick '2' if you feel it is SLIGHTLY UNIMPORTANT.

To me shopping for **travel services** on the Internet is:

unimportant	1	2	3	4	5	important
boring	1	2	3	4	5	interesting
irrelevant	1	2	3	4	5	relevant
unexciting	1	2	3	4	5	exciting
unappealing	1	2	3	4	5	appealing
worthless	1	2	3	4	5	valuable
uninvolving	1	2	3	4	5	involving
not needed	1	2	3	4	5	needed
foolish	1	2	3	4	5	wise

11. *Please indicate the extent to which you agree or disagree with the following statements, based on your **overall experience** of shopping for **travel services** on the Internet.*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I used the Internet every time I need to purchase travel services					
I want to continue using Internet shopping for travel services in the future					
I expect my usage of Internet shopping for travel services to increase in the future					
I consider myself as a frequent Internet shopper for travel services					
Overall, I feel I have adopted Internet shopping for travel services					
Overall, I am satisfied when shopping for travel services via the Internet					
My overall evaluation of the services provided by web travel retailers is that they are excellent					

12. *Please indicate your level of agreement with the following statements **that best describes you personally.***

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
In general, I am among the first in my circle of friends to buy travel services from the Internet					
Compared to my friends, I shop for travel services via the Internet more often					
I will visit a new travel website even if I am not familiar with it					

I shop for travel services on the Internet as I see it works for many people around me					
I shop for travel services on the Internet when I see vast majority of people around me accept it					
I never talk to my friends and neighbours about shopping for travel services via the Internet					
In a discussion of Internet shopping for travel services, I like to convince my friends of my ideas					
Amongst my friends, I am often used as a source of advice about Internet shopping for travel services					
In the past 6 months, I have told a number of people about Internet shopping for travel services					

Please tick ☑ the appropriate box or write in your answers where appropriate.

13. Are you?
    ☐ Male
    ☐ Female

14. Which of the following age groups are you in?
    ☐ Under 18
    ☐ 18 to 24
    ☐ 25 to 34
    ☐ 35 to 44
    ☐ 45 to 54
    ☐ 55 to 64
    ☐ 65 or older

15. What is the highest level of education you have attained?
    ☐ CSEs / O level / GCSEs
    ☐ A Levels
    ☐ Professional qualification
    ☐ Undergraduate degree
    ☐ Postgraduate degree

16. What is your marital status?
    ☐ Single
    ☐ Married/ Living with partner
    ☐ Divorced/ Widowed/ Separated

17. How many children under 18 years old are there in your household?
    ☐ None
    ☐ 1
    ☐ 2
    ☐ 3
    ☐ 4
    ☐ More than 4

18. If you have children in your household, please indicate the general level of influence they have over your travel purchase decision
  - ☐ Very insignificant
  - ☐ Insignificant
  - ☐ Neither insignificant nor significant
  - ☐ Significant
  - ☐ Very significant

19. Do you own a credit and /or debit card?
  - ☐ Yes
  - ☐ No

20. What is the present occupation of the chief income earner in your household?

_____ (Please specify)

21. What is your postcode? _____ (Please specify)

Thank you for your feedback. We sincerely appreciate your honest opinion.

If you have any other thoughts about Internet shopping not covered in this study, please use the space below.

_____

_____

_____

Please enter your e-mail address below if you wish to enter the prize draw and /or take part in future research. Please be assured that your email address will not be used for any other purposes.

E-mail address _____

Thank you for completing this survey!

*Please contact evansm7@cardiff.ac.uk or kamarulzamany@cardiff.ac.uk
if you have any questions regarding this survey.*

Appendix 6.1

MOSAIC UK Groups and Types

Group	Group Description	% Households	Type	Type Description	% Households
A	Symbols of Success	9.62	A01	Global Connections	0.72
			A02	Cultural Leadership	0.92
			A03	Corporate Chieftains	1.12
			A04	Golden Empty Nesters	1.33
			A05	Provincial Privilege	1.66
			A06	High Technologists	1.82
			A07	Semi-Rural Seclusion	2.04
B	Happy Families	10.76	B08	Just Moving In	0.91
			B09	Fledgling Nurseries	1.18
			B10	Upscale New Owners	1.35
			B11	Families Making Good	2.32
			B12	Middle Rung Families	2.86
			B13	Burdened Optimists	1.96
			B14	In Military Quarters	0.17
C	Suburban Comfort	15.10	C15	Close to Retirement	2.81
			C16	Conservative Values	2.84
			C17	Small Time Business	2.93
			C18	Sprawling Subtopia	3.08
			C19	Original Suburbs	2.41
			C20	Asian Enterprise	1.02
D	Ties of Community	16.04	D21	Respectable Rows	2.65
			D22	Affluent Blue Collar	3.12
			D23	Industrial Grit	3.82
			D24	Coronation Street	2.81
			D25	Town Centre Refuge	1.13
			D26	South Asian Industry	0.88
			D27	Settled Minorities	1.62
E	Urban Intelligence	7.19	E28	Counter Cultural Mix	1.36
			E29	City Adventurers	1.27
			E30	New Urban Colonists	1.36
			E31	Caring Professionals	1.08
			E32	Dinky Developments	1.10
			E33	Town Gown Transition	0.76
			E34	University Challenge	0.26
F	Welfare Borderline	6.43	F35	Bedsit Beneficiaries	0.71
			F36	Metro Multiculture	1.67
			F37	Upper Floor Families	1.72
			F38	Tower Block Living	0.49
			F39	Dignified Dependency	1.34
			F40	Sharing a Staircase	0.50
G	Municipal Dependency	6.71	G41	Families on Benefits	1.21
			G42	Low Horizons	2.64
			G43	Ex-industrial Legacy	2.86
H	Blue Collar Enterprise	11.01	H44	Rustbelt Resilience	3.00
			H45	Older Right to Buy	2.67
			H46	White Van Culture	3.17
			H47	New Town Materialism	2.17
I	Twilight Subsistence	3.88	I48	Old People in Flats	0.83
			I49	Low Income Elderly	1.63
			I50	Cared for Pensioners	1.43
J	Grey Perspectives	7.88	J51	Sepia Memories	0.75
			J52	Childfree Serenity	1.34
			J53	High Spending Elders	1.53
			J54	Bungalow Retirement	1.26
			J55	Small Town Seniors	2.71
			J56	Tourist Attendants	0.30
K	Rural Isolation	5.39	K57	Summer Playgrounds	0.29
			K58	Greenbelt Guardians	1.74
			K59	Parochial Villagers	1.64
			K60	Pastoral Symphony	1.31
			K61	Upland Hill Farmers	0.41

Appendix 6.2

Definitions of Social Grade

Social Grade is determined by the occupation of the Chief Income Earner (CIE) in each household. A brief description of the grades used in the Survey is as follows:

Social Grade	Social Status	CIE's Occupation
A	Upper Middle Class	Higher managerial, administrative or professional
B	Middle Class	Intermediate managerial, administrative or professional
C1	Lower Middle Class	Supervisory or clerical and junior managerial, administrative or professional
C2	Skilled Working Class	Skilled manual workers
D	Working Class	Semi and unskilled manual workers
E	Those at the lowest levels of subsistence	State pensioners or widows (no other earner), casual or lowest grade workers

Examples of Occupations by Social Grade

Social Grade	Typical Occupations	Grade	Typical Occupations
A	Bishop	C2	Foreman with up to 24 employees
	Established Doctor, Solicitor		Police Constable
	Self employed farmers with 10+ employees		Agricultural Workers with special skills (Head Cowman, Chief Shepherd)
	Board Director in large organisation (200+ employees)		Self employed unskilled manual workers with 1-4 employees)
	Bank Branch Manager or higher		Bus Driver, Ambulance Driver, AA Patrolman
	Police Superintendent, Chief Constable		Skilled Bricklayer, Carpenter, Plumber, Painter
B	Vicar, Parson	D	Manual workers, generally semi- or un-skilled
	Newly qualified (under 3 years) Doctor, Solicitor		All apprentices to skilled trades
	Self employed farmers 2-9 employees		Caretaker, Park Keeper, Postman
	Board Director small organisation, Senior Managers		Fisherman, Forrestry Worker
	Bank Clerks with special responsibilities (e.g Chief Clerk)		Bus Conductor, Traffic Warden
	Police Chief Inspector, Inspector		Shop Assistant, Supermarket Shelf-Filler, Check-out Operator
C1	Curate, Monk, Nun	E	Casual Labourers
	Student Doctor, Articled Clerk		Individuals dependent on state benefits or income support for 2 months or more
	Self employed farmers with only 1 employee		Old Age Pensioners with State pensions
	Foreman with 25+ employees		
	Bank Clerk		
	Students on grants		

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			D26	South Asian Industry	0.88
			D27	Settled Minorities	1.62
E	Urban Intelligence	7.19	E28	Counter Cultural Mix	1.36
			E29	City Adventurers	1.27
			E30	New Urban Colonists	1.36
			E31	Caring Professionals	1.08
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			F36	Metro Multiculture	1.67
			F37	Upper Floor Families	1.72
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			F39	Dignified Dependency	1.34
			F40	Sharing a Staircase	0.50
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J	Grey Perspectives	7.88	J51	Sepia Memories	0.75
			J52	Childfree Serenity	1.34
			J53	High Spending Elders	1.53
			J54	Bungalow Retirement	1.26
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	Bank Branch Manager or higher		Bus Driver, Ambulance Driver, AA Patrolman
	Police Superintendent, Chief Constable		Skilled Bricklayer, Carpenter, Plumber, Painter
B	Vicar, Parson	D	Manual workers, generally semi- or un-skilled
	Newly qualified (under 3 years) Doctor, Solicitor		All apprentices to skilled trades
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	Board Director small organisation, Senior Managers		Fisherman, Forrestry Worker
	Bank Clerks with special responsibilities (e.g Chief Clerk)		Bus Conductor, Traffic Warden
	Police Chief Inspector, Inspector		Shop Assistant, Supermarket Shelf-Filler, Check-out Operator
C1	Curate, Monk, Nun	E	Casual Labourers
	Student Doctor, Articled Clerk		Individuals dependent on state benefits or income support for 2 months or more
	Self employed farmers with only 1 employee		Old Age Pensioners with State pensions
	Foreman with 25+ employees		
	Bank Clerk		
	Students on grants		

Example: Grading Managers in Commercial Organisations

	Size of Establishment (Number of Employees)		
	Large	Medium	Small
	200+	25-199	1-24
Chairmen	A	A	B
Managing Director	A	A	B
Board Director	A	B	C1
Senior Manager	A	B	C1
Department Manager:			
Professionally Qualified	A	B	C1
Not Professionally Qualified	B	C1	C1
Junior Manager	B	C1	C1

Example: Social Grade by Military Rank (Army)

Grade	Rank
A	Field Marshall, General, Brigadier, Lieutenant Colonel, Colonel
B	Captain, Major
C1	Sergeant, Sergeant Major, Warrant Officer, 2nd Lieutenant, Lieutenant
C2	Lance-Corporal, Corporal, Bombadier
D	Private
E	

Appendix 6.3

Classification of Postcodes and Household Grade

ID	OCCUPATION	HOUSE-HOLD GRADE	POST-CODE	GEO-DEMO	ID	OCCUPATION	HOUSE-HOLD GRADE	POST-CODE	GEO-DEMO
						Affairs			
1468	Administrator	C1	ML9 2DB	D	1511	Researcher	C1	MK42 0NB	F
1469	Teacher	C1	SN25 3HR	I	1512	Air Traffic Assistant	C1	PO15 6HF	B
1470	Head Teacher	A	NN15 6HL	D					
1471	Self Employed Sales Agency	B	TS19 7AL	C	1514	It Management	B	BT38 9HS	D
					1515	Manager	B	AB33 8JU	K
1472	Government	C1	KT6 4SN	E	1516	Business Development Manager	B	HR8 2BY	H
1473	University Administrator	C1	SW11 5JY	E					
1474	Therapist	C1	GU30	I/P	1517	Airline Cabin Crew	C1	L36 8JD	B
1476	Teacher	D	B14	I/P					
1477	Warehouse Man	E	BS41 9AP	J					
					1518	Wibble	N/A	E4	I/P
1478	Retired Disabled	C1	DE55 2FB	B	1519	IT Manager	B	M21 9WR	C
					1520	Musician	C1	RM10 9PJ	H
1479	Computer Games Artist	C1	NG2 7HL	I	1521	Builder	C2	SS2 4JR	D
1480	Merchandiser/ Auditor	B	AB42 3LJ	K	1522	Building Site Manager	B	B63 2XU	B
1481	Administrator	C1	LA4 5TX	G	1523	IT Manager	B	PE8 5JZ	K
1482	CEO	A	RG2 7HQ	A	1525	Sales Manager (Computers)	B	AL2 3SR	A
1483	Teacher	C1	PO15AL	B					
1484	Trainer	C1	MK41 0LP	A	1526	IT Consultant	B	CH64	I/P
1485	Manufacturer	D	SS141RB	F	1527	Intelligence Analyst	B	WD24 4DA	E
1486	Civil Servant	C1	BS16 5DL	J					
1487	Company Director	A	OX12 9LJ	B	1528	Business Controller	B	SL1	I/P
1488	Support Worker	C1	DE223HD	E	1530	£17,000	N/A	NN10	I/P
1489	Doctor	A	CB17UB	E	1531	Civil Service Personnel Manager	B	NP10 8JR	B
1490	Internet Related	A	GL53 8LN	A					
1493	Police Officer	C1	M34 5GZ	D	1532	Lecturer	B	L22 7RH	C
1494	Repairs And Driver Man	D	DA12 4EG	H	1533	IT Manager	B	LL49 9PU	G
					1534	Midwife	C1	BL47RJ	D
1495	Company Director	A	YO61 1PR	A	1535	IT Technician	C1	BD12 8QS	H
1496	IT Project Manager	B	SK7 2JQ	A	1536	Lorry Driver	D	NP47QS	H
					1537	Economist	B	RG1 5RY	E
1497	Architect	B	SM1 2TY	E	1538	IT Project Manager	B	SM5 2EN	C
1498	Allocations Supervisor	C1	NN15 7QW	J					
					1539	Musician	C1	15732	I/P
1499	System Support Manager	B	JE3 8EN	I/P	1540	Teacher	C1	LS6 2BD	E
					1541	Plumber	C2	BD13 4DT	B
1500	Civil Servant	C1	SO15 3EN	D	1542	Admin Manager	B	ML1 2HY	F
1501	Consultant Engineer	B	TN25 4QG	A	1543	Bank Manager	B	MK45 1QD	B
1502	Purchasing	C1	B46	I/P	1544	He's In The RAF	C2	HA46NN	B
1503	IT Manager	B	CB4 2PB	H					
1504	Independent Means / Private Income	C1	TQ1 1QY	D	1545	Care Manager	B	TA11 6BY	K
					1546	Analyst Programmer	B	SS8	I/P
1505	Accountant	B	HU17 8WF	B	1548	Company Director	A	CV34 4SA	J
1506	Electrical Design Engineer	B	LE18 4UF	D					
					1549	Health Worker	C1	PE13 2EJ	D
					1550	Event Organiser	A	CM158PG	A
1507	No Idea	N/A	EX2 DJ	I/P					
1508	MIS	C2	WN2 4AF	F	1551	Purchasing Manager	B	B461BN	D
1510	Regulatory	B	NR16 1LH	A	1552	N/A	N/A	CF62	I/P

ID	OCCUPATION	HOUSE-HOLD GRADE	POST-CODE	GEO-DEMO	ID	OCCUPATION	HOUSE-HOLD GRADE	POST-CODE	GEO-DEMO
1553	IT Manager	B	AL3 5NA	E	1604	Sales Engineer	B	PO2 8NL	B
1554	Ambulance Driver	C2	LN12 2NE	J	1605	Hgv Driver	D	CT12 6JA	H
1557	Bank	B	RM126QZ	A	1607	Business Owner	B	24201	I/P
1558	Aircraft Fitter	C2	BS22 7PF	B	1608	Development Manager	B	BS6 5SH	E
1559	Administrator	C1	NG9 8PW	I					
1560	Director	A	TQ1 1SB	D	1609	Solicitor/Lawyer	A	EH5 3LT	J
1561	Software Engineer	B	HP13 6DW	E	1610	Senior Product Services Manager	B	TN23 7TU	D
1562	Civil Servant	C1	TW3 4BJ	D	1611	It Administrator	C1	BN1 2NL	E
1564	Chartered Surveyor	A	MK17 9HR	A	1612	Engineer	B	EH30 9RF	E
1565	HM Forces	C1	HG4 2HR	B	1613	Retired	B	G14 9EB	A
1566	Company Director	A	S6 1TL	D	1614	Managing Director	A	SW20	I/P
1568	Carpenter	C2	EN9	I/P	1615	Enterprise Coach	C1	DH9 9LN	B
1569	Warehouse Worker	D	TN4 9BY	D	1617	Housing Support Worker	C1	RM12 4DS	C
1570	Care Worker	D	NE14DQ	F	1618	General Assembly	B	44107	I/P
1571	Medical Technician	C1	87120	I/P	1619	Vehicle Technician	C1	BD20 7NL	B
1572	Unemployed	E	BS10 7BY	F	1620	Disabled	E	NR1 2PA	H
1574	Train Driver	C2	NE24 4BL	H	1622	Housewife	C1	NR6 7QW	D
1575	Air Traffic Controller	B	FY2 9UJ	J	1623	Heavy Maintenance Superintendent	B	WA14 5NB	C
1577	Carer	C1	SO31 4HX	C					
1578	Civil Servant	B	IP27 0UX	B	1624	Banker	A	N20 9EJ	A
1579	Finance Officer	B	BB2 1UY	D	1626	Admin Assistant	C1	CF62 4PP	H
1580	Unemployed Due To Illness	D	ME8 8ER	H	1627	It Engineer	B	GL52 2LB	E
1581	Financial Advisor	B	ST10 1BU	D	1628	Teacher	C1	TS20 1TB	B
1582	Contracts Advisor	B	UB3 2DA	H	1629	Retired	D	PE30 2LR	F
1583	Unemployed	E	SM1	I/P	1630	Clerk	C1	DH6 1EQ	I
1584	Hgv Driver	D	B24 0RT	D	1631	Production Manager	B	CV9 2DD	D
1585	Waste Manager	B	SY5 9NZ	B	1633	Insurance Consultant	B	HU8 8TN	D
1586	Own Business	B	TA12QE	H					
1587	Managing Director	A	LS16 6SW	B	1634	Retired	D	PA16 7JJ	F
1588	Professional	B	BS17	I/P	1635	Administrator	C1	LS11 6LN	D
1589	Doctor	B	CT9 1TJ	H	1636	Biologist	B	50829	I/P
1590	Catering	C1	TW134DL	F	1637	Director	A	L39 9ED	A
1591	Store Manager	B	PE13 5AF	C	1638	Warehouse Supervisor	C1	B36 0LT	H
1592	Paramedic	C1	SG1 4EQ	H	1639	Toolmaker	C2	GU34 QP	I/P
1593	Sole Trader	C1	EH41 3AB	D	1640	Patient Transport Manager	B	DA5 1JN	C
1594	Admin Executive	B	SS3 0EQ	C					
1595	Calibration Management (British Airways)	C1	LU11JT	D	1642	Printer	B	G74 2BL	B
					1643	Lecturer	B	WD23 1EJ	J
					1646	Auctioneer	B	DD11 5BQ	C
1596	Office Manager	B	SO17 1XN	E	1647	Library Manager	B	BH21	I/P
1597	Insurance Broker	B	GL7 5SA	J	1648	Civil Servant	C1	M23 0BS	G
1598	Retired	C1	RM13 9UA	C	1649	Scientist	B	RG20 5RZ	C
1599	Professional Architect	A	7140	I/P	1650	Telecommunications Technician	C1	M13 9ND	B
1600	Secretary	C1	CV4 9UF	G	1651	Car Mechanic	C2	NG22 8PR	H
1602	Corporate Payroll Tax Manager	B	91766	I/P	1652	Retired	D	BA5 2BY	H
					1653	Office Worker	C2	EH28	I/P
1603	Credit Controller	B	UB8 3AJ	C	1655	Computer Engineer	B	BH4 9NG	A

ID	OCCUPATION	HOUSE-HOLD GRADE	POST-CODE	GEO-DEMO	ID	OCCUPATION	HOUSE-HOLD GRADE	POST-CODE	GEO-DEMO
1656	Army	C1	SP4 9AQ	B	1717	Carer	D	PL24 2LA	G
1657	Business Manager	B	RH11 8HZ	C	1718	Self Employed Plumber	C2	IV12 4TP	J
1658	Warehouseman	D	NN3 5DF	B	1719	Retired	B	DH3 4BE	C
1659	Marketing	C1	CH45 8LU	C	1720	Charity Director	B	MK8 9HW	B
1661	Civil Servant	C1	PO16 0UE	D	1722	Marketing	B	WF4 5AS	C
1662	Trust Administrator	C1	JE2 7PA	I/P	1723	Revenues Officer	C1	EH54	I/P
1663	Me	C2	DT6 3FD	B	1724	Business Adviser	C1	HP1 1JB	C
1664	Department Manager	B	CF83 3FT	D	1726	Network Administrator	C1	CZ-63500	I/P
1665	Scenic Painter	C1	RM53YD	C	1727	Accountant	B	TW16 7RS	B
1666	Doctor	B	DE15 0LA	A	1728	Healthcare	C2	BT14 7JQ	G
1667	Forge Operator	C2	WS7 8TT	D	1729	Business Owner	B	87107	I/P
1668	Farm Foreman	C2	TN15 9DG	A	1730	Volunteer Co-Coordinator	C1	TN39 5DH	H
1670	Train Driver	C2	PR25 1HT	I	1731	Quantity Surveyor	B	NR31 7AB	D
1671	Self Employed Caterer	C1	SN31PL	C	1732	Supervisor	C1	SS2 4NH	D
1672	Clerical	C1	B60 3LD	F	1733	3000	N/A	1820	I/P
1673	Lithographer	C2	60194	I/P	1734	Snco Armed Forces	C1	SN15 4TA	B
1674	Piano Restorer	C2	NW10 8UT	E	1735	Salesman	C1	ML2 0QE	B
1676	Photographer	B	G659LX	I/P	1736	Sales Manager	B	RG 1SR	I/P
1677	Nurse RN	C1	19064	I/P	1737	Admin Manager	B	PE26 2UA	C
1678	Supervisor Of Crew That Take Care Of The Downtown Area	B	74134	I/P	1738	Learning Activist	C1	HU5 3SQ	E
					1739	Royal Air Force	C1	ST16 3QU	B
1679	Engineering Manager	B	AB30 1LG	B	1741	Self Employed IT Support Specialist	B	SW5 9EZ	E
1680	Credit Controller	B	TW14 8SQ	D	1742	£18,000	D	BL34ER	G
1683	Retired	C1	CO3 0LB	C	1745	Systems Tester	B	B94 6NY	C
1685	Full Time Mum	C1	PO37 6NJ	J	1746	Admin	C1	WA7 4RN	G
1687	Radiographer	C1	PR2 3WR	C	1747	Pharmacist	B	GU31 4RF	B
1688	Sales	B	3724	I/P	1748	Accountant	B	S10 1QP	E
1689	Manager	B	WR10 3HR	K	1749	Taxi Company Owner	B	WD6	I/P
1690	Commissioning And Service Engineer	B	BN5 9JN	H	1752	Driving Instructor	C1	BN24 5LN	J
1691	Ironworker	C2	16025	I/P	1753	Not Working	D	SM1 4NQ	E
1692	Admin	C1	E14 3UU	E	1754	It	B	RG40 2LP	A
1695	Senior Analyst	B	SE25 6PP	F	1755	Retired	C2	DY3 2ET	H
1696	Clerical	C1	EX2 9BE	E	1759	Education	C1	IP21 5TB	K
1698	N/A	B	NW2 1JP	C	1761	Security	C2	G67 1PB	D
1701	Store Manager	B	2475	I/P	1763	Accountant	B	PA8 7BE	B
1702	IT Professional	B	125001	I/P	1765	Teacher	C1	LE10 1PL	D
1704	Management	A	GU6 7BQ	A	1766	Consultant	B	SW11	I/P
1705	Publisher	B	CO59AR	C	1768	Marketing Consultant	B	HG2 0EF	C
1706	Company Director	A	IM6 1EY	I/P	1773	Retail Manager	B	NP263JA	A
1707	Retired	A	LS15 9ET	A	1779	Driver	D	B102N	I/P
1709	Director	B	BS5 6LB	D	1780	Plumber	C2	GL51 2	I/P
1710	Music Producer	B	BS8 1BL	E	1781	Sales	C1	CF53Q	I/P
1711	Office Service Co-Coordinator	C1	RH16 3PH	F	1784	Insurance Advisor	B	SK17 5	I/P
1712	Self Employed	C1	M4 5EE	F	1785	Nurse	C1	LE55T	I/P
1713	Journalist	C1	BN17 5LE	D	1786	Marketing	C1	DA14	I/P
1714	Electronics Test Engineer	B	CV8 2BY	A	1787	Therapist	C1	BD159I	I/P
1715	Consultancy Manager	B	BB12 0PB	B	1790	Admin	C1	PE27 5BB	J
1716	Administrator	C1	SL4 4AB	B					

ID	OCCUPATION	HOUSE-HOLD GRADE	POST-CODE	GEO-DEMO	ID	OCCUPATION	HOUSE-HOLD GRADE	POST-CODE	GEO-DEMO
1794	Manager	B	SO52	I/P	1830	IT	C1	LL11 4E	I/P
1803	Nurse	C1	OX29	I/P	1831	Real Estate	C1	NB45	I/P
1804	Own Business	B	SY3 9LX	F	1832	Teacher	C1	LA55E	I/P
1805	Sales	C1	RG4	I/P	1833	Consultant	B	DL399	I/P
1808	Catering	C1	SP9 8	I/P	1834	Emergency Services	C2	EH3	I/P
1809	Plumber	C2	IP14	I/P	1835	Musician	C2	GU14SS	F
1811	Accountant	B	NG28	I/P					
1812	Care Worker	D	SY299YU	I/P	1836	Web Design	C1	PO31	I/P
1814	Landscape Gardner	C2	LN89PW	I/P	1838	Banking	C1	M21 3JW	I/P
					1839	Shop Owner	B	CW1	I/P
1816	Retail Assistant	C1	W1G	I/P	1841	Sales	C1	AB4 5AY	I/P
1817	It Manager	B	EC9N 8TK	I/P	1842	Telesales	C1	CV72NU	I/P
1818	Programmer	B	OX9	I/P	1844	PA	C1	RG7SS	I/P
1819	Pub Manager	B	PL8B 2	I/P	1845	Real Estate	C1	S18 9RY	I/P
1820	Mechanic	C2	BA87NV	I/P	1846	Hairdresser	C2	SY23	I/P
1822	Postal Worker	D	SW29	I/P	1847	Manager	B	CV7	I/P
1823	Customer Service	C1	HA9 8MZ	I/P	1848	Sales	C1	GL6	I/P
					1849	Manager	B	RH1 0NY	I/P
1824	Bank Teller	C1	B33 0MY	I/P	1851	Customer Service	C1	G44 4EV	I/P
1825	Supervisor	C1	BR1234	I/P					
1826	Sales	C1	NN6	I/P	1852	Warehouse	D	IV983OP	I/P
1827	CS	C1	SG4	I/P	1853	IT Consultant	B	PE2 6NY	I/P
1828	Telesales	C1	B42 1	I/P					
1829	Sales Director	A	NW36D	I/P					

Note:
N/A = Data Not Available
I/P = Incomplete Postcode Given

Appendix 6.4

T-Test Results between Early and Later Adopters

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	95% Confidence Interval of the Difference Upper
age	Equal variances assumed	.123	.726	-2.158	297	.032	-.26398	.12232	-.50471	-.02326
	Equal variances not assumed			-2.152	287.801	.032	-.26398	.12265	-.50538	-.02259
edu	Equal variances assumed	.540	.463	-3.753	297	.000	-.57401	.15295	-.87501	-.27301
	Equal variances not assumed			-3.777	296.245	.000	-.57401	.15198	-.87310	-.27492
gender	Equal variances assumed	10.600	.001	1.622	297	.106	.08817	.05437	-.01882	.19517
	Equal variances not assumed			1.630	295.533	.104	.08817	.05410	-.01829	.19464
intusage	Equal variances assumed	.043	.836	-7.601	297	.000	-.73386	.09654	-.92385	-.54386
	Equal variances not assumed			-7.527	275.463	.000	-.73386	.09750	-.92580	-.54192
purchase	Equal variances assumed	20.174	.000	-25.748	297	.000	-1.65369	.06423	-1.78008	-1.52729
	Equal variances not assumed			-26.378	284.510	.000	-1.65369	.06269	-1.77708	-1.53029
search	Equal variances assumed	4.502	.035	-3.635	297	.000	-.47549	.13083	-.73296	-.21803
	Equal variances not assumed			-3.600	275.847	.000	-.47549	.13210	-.73554	-.21545
status	Equal variances assumed	1.133	.288	-.950	297	.343	-.05144	.05414	-.15799	.05511
	Equal variances not assumed			-.949	290.497	.343	-.05144	.05417	-.15806	.05519

Appendix 6.5

Mahalanobis Distance

Extreme Values

			Case Number	Value
MAH_1	Highest	1	33	34.13
		2	193	32.83
		3	98	27.37
		4	203	24.58
		5	10	24.33
	Lowest	1	160	.86
		2	52	1.14
		3	141	1.23
		4	26	1.38
		5	210	1.43

Mahalanobis Distance Stem-and-Leaf Plot

```
Frequency   Stem &  Leaf
   1.00      0 . 8
  12.00      1 . 123456789999
  26.00      2 . 00111112234556667777778899
  27.00      3 . 000001222333344555666778899
  28.00      4 . 0000222234445555566777788888
  40.00      5 . 0000112222233333334445566666677788888888899
  25.00      6 . 0011122223344456667889999
  20.00      7 . 11222233445666666799
  19.00      8 . 0222333355555778899
  24.00      9 . 002234446666677888999999
  10.00     10 . 0111233567
  13.00     11 . 0001223455889
  11.00     12 . 01244558899
  11.00     13 . 01111355688
   5.00     14 . 01599
   7.00     15 . 0456788
   4.00     16 . 4689
   1.00     17 . 3
   1.00     18 . 6
  14.00 Extremes    (>=18.8)
Stem width:     1.00
Each leaf:      1 case(s)
```

Critical Values for Evaluating Mahalanobis Distance Value

Number of independent variables	Critical Values	Number of independent variables	Critical Values	Number of independent variables	Critical Values
2	13.82	4	18.47	6	22.46
3	16.27	5	20.52	7	24.32

Source: Tabachnick and Fidell, 2001

Appendix 7.1

Assessment of Outliers with SEM

Observation number	Mahalanobis d-squared	p1	p2	Observation number	Mahalanobis d-squared	p1	p2
9	94.039	.000	.000	127	37.380	.069	.000
120	75.372	.000	.000	136	37.273	.071	.000
203	74.804	.000	.000	188	36.964	.075	.000
86	66.346	.000	.000	21	36.876	.077	.000
214	63.987	.000	.000	262	36.829	.077	.000
145	62.620	.000	.000	87	36.632	.081	.000
193	62.355	.000	.000	7	36.614	.081	.000
228	61.235	.000	.000	102	36.594	.081	.000
173	58.598	.000	.000	110	36.557	.082	.000
65	58.578	.000	.000	59	36.537	.082	.000
96	57.499	.000	.000	81	36.299	.086	.000
55	57.309	.000	.000	143	35.703	.097	.000
236	56.256	.001	.000	133	35.450	.102	.000
93	55.040	.001	.000	92	35.088	.110	.000
36	52.805	.001	.000	149	34.993	.112	.000
195	51.527	.002	.000	200	34.826	.115	.000
153	51.472	.002	.000	152	34.586	.121	.000
33	50.683	.003	.000	98	34.551	.122	.000
248	50.023	.003	.000	119	34.393	.125	.000
251	49.309	.004	.000	212	33.986	.135	.000
20	47.619	.006	.000	88	33.934	.137	.000
24	46.352	.008	.000	218	33.717	.142	.000
244	44.431	.014	.000	99	33.705	.143	.000
106	44.146	.015	.000	159	33.181	.157	.000
175	43.971	.015	.000	287	33.072	.160	.000
151	43.873	.016	.000	3	32.921	.164	.000
118	43.855	.016	.000	112	32.617	.173	.000
82	43.750	.016	.000	206	32.567	.175	.000
231	43.208	.018	.000	34	32.462	.178	.000
187	42.967	.019	.000	256	32.442	.179	.000
172	42.961	.019	.000	161	32.331	.182	.000
164	42.769	.020	.000	233	32.322	.183	.000
40	42.633	.021	.000	160	32.319	.183	.000
84	42.188	.023	.000	126	32.222	.186	.000
247	41.781	.026	.000	135	32.210	.186	.000
222	41.769	.026	.000	157	32.034	.192	.000
132	41.622	.027	.000	177	32.028	.192	.000
5	41.465	.028	.000	234	31.862	.198	.000
128	41.065	.031	.000	227	31.779	.201	.000
63	41.062	.031	.000	50	31.621	.206	.000
56	40.949	.031	.000	230	31.594	.207	.000
74	40.227	.037	.000	184	31.488	.211	.000
30	39.774	.041	.000	148	31.355	.215	.000
61	39.466	.044	.000	185	31.310	.217	.000
223	39.275	.046	.000	158	31.247	.219	.000
17	38.710	.052	.000	196	31.217	.220	.000
29	38.268	.057	.000	10	31.129	.223	.000
37	37.920	.062	.000	58	30.968	.229	.000
267	37.758	.064	.000	39	30.426	.250	.001
35	37.629	.066	.000				
150	37.471	.068	.000				

Appendix 7.2

Assessment of Multivariate Normality with SEM

Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
TRUST3	2.000	5.000	-.435	-3.071	.663	2.340
TRUST1	2.000	5.000	-.304	-2.149	.136	.481
TRUST2	2.000	5.000	-.555	-3.918	.718	2.534
OPINION4	1.000	5.000	-.487	-3.435	-.300	-1.058
ADOPT1	2.000	5.000	-.291	-2.054	-.744	-2.627
ADOPT4	1.000	5.000	-.246	-1.734	-.644	-2.273
USEFUL7	3.000	5.000	-.256	-1.811	-.638	-2.253
ADOPT5	2.000	5.000	-.364	-2.573	-.298	-1.050
ADOPT6	2.000	5.000	-.401	-2.828	.617	2.178
INVOLVE9	1.000	5.000	-.927	-6.543	.387	1.366
RISK7	1.000	4.000	.433	3.055	.179	.632
USEFUL5	3.000	5.000	-.229	-1.614	-.915	-3.228
USEFUL3	3.000	5.000	-.508	-3.586	-.732	-2.584
INVOLVE8	1.000	5.000	-1.029	-7.266	.457	1.612
INVOLVE7	1.000	5.000	-.339	-2.390	-.516	-1.821
INVOLVE6	1.000	5.000	-.813	-5.742	-.042	-.149
RISK6	1.000	5.000	.634	4.473	.117	.415
RISK5	1.000	4.000	.386	2.728	.190	.670
EASE4	2.000	5.000	-.573	-4.045	.286	1.011
INNOV1	2.000	5.000	.141	.997	-.662	-2.337
INNOV2	2.000	5.000	-.020	-.142	-.773	-2.729
OPINION2	1.000	5.000	-.160	-1.130	.060	.213
OPINION3	1.000	5.000	-.206	-1.452	-.441	-1.557
EASE2	2.000	5.000	-.261	-1.843	-.118	-.415
EASE3	2.000	5.000	-.354	-2.500	-.096	-.340
USEFUL2	2.000	5.000	-.679	-4.794	.635	2.241
Multivariate					145.283	32.919