COMPLEMENTARITY BUNDLES OF PRODUCTS AND SERVICES ON THE INTERNET:
VALUE PERCEPTIONS AND BEHAVIOURAL INTENTIONS

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ABSTRACT

This study examines the relationship of complementary products and services offered by B2C e-business operators to customers' perceived value and evaluates the influence of this perceived value on future customer behaviour. This study employed a 2 x 2 x 2 x 2 between-subjects factorial design. Four independent variables—(1) Product Component, (2) Product Range, (3) Online Service, and (4) Offline Service—were used in order to test the hypotheses derived from the existing literature. A website-based experiment was developed and built to test the relationships. Sixteen travel websites were created to closely mimic the design of real travel websites. Each website presented one experimental condition that contained the manipulation of the four complementary products and services. The experiment was conducted using a website developed to enable a travel scenario to Phuket, Thailand. Two hundred and seventy-two subjects participated in the experimental use of a travel-focused website to test the role of complementary goods and services. Data were analysed using descriptive statistics, univariate analysis of variance and regression analysis.

The results of the experiment using online travel products and services offerings showed two main effects for product range and online service on customer perceived value. Subjects who were exposed to those websites that offered wide product ranges exhibited higher value perceptions than subjects who were exposed to the websites with narrow product ranges. Also, subjects who were exposed to the websites with a greater number of online services exhibited greater perceived value than subjects who were exposed to the websites with limited online services. Moreover, the study indicated a three-factor interaction effect among product component, online services and offline services on customers' perceived value. The study found that the relationship between

the product range and online service on the overall customers' value was stronger when a greater level of offline service was presented. Further analysis also indicated that at the greater offline service level, product range had an effect when combined with a greater rather than limited number of online services. In addition, when the level of offline service is greater, online service had an effect when combined with a wide rather than narrow product range. Finally, a positive relationship between customers' perceived value and their future behaviours was found. Subjects who placed a high value on complementary products and services offered by e-business operators had an increased likelihood of displaying favourable behaviours and intentions toward the e-business operators in future.

The data suggest that offline service complementarities can be used to help enhance customers' perceived value of product range and online service offerings. B2C e-business operators should recognise the importance of offering a bundle of these complementary products and services when conducting their business. The interaction provides more significant insights into the true relationship among these factors on customers' perceived value rather than considering one factor at a time. Furthermore, customers' perceived value can be used to explain future behavioural intentions toward e-business operators. The interviews also revealed the importance of complementary products and services when shopping for travel products online as well as other factors, such as company brand name, price, and ease-of-use. This study adds valuable empirical findings to the literature by highlighting the role of complementary products and services in business-to-consumer e-business value creation and provides theoretical support for the relationship between customers' perceived value and behavioural intentions.

Chapter 1

INTRODUCTION

1.1 Problem Statement

This thesis is an experimental study of customers' perceived value of complementary products and services[1] offered by business-to-consumer (B2C) e-business (electronic business). The Internet enables businesses to conduct their business online including marketing, selling and buying products and services, as well as communicating with their customers (Adam 2002; Griffith & Krampf 1998; Nicholls & Watson 2005; Soh et al. 1997). These opportunities offered by e-business have the potential to provide greater benefits for both organisations and customers in comparison to traditional channels. While organisations exploit the Internet to reach global markets, save costs, improve their supply chain, and offer more products and services, customers' benefits from e-commerce are numerous and include the convenience of shopping, the variety and range of choice of products, and cost savings. These benefits are summarised in Table 1.1.

Table 1.1 Benefits of E-Commerce

Benefits to Organisations
- Global reach. Locating customers and/or suppliers worldwide.
- Cost reduction. Lower cost of information processing, storage, telecommunications, and distribution.
- Increased revenue, improve margins (profits).
- Supply chain improvements.
- Reduced delays, inventories, and costs.
- Efficient procurement. Save time and reduce costs by enabling e-procurement.

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[1] Services in this study is defined as 'ancillary services'.

Table 1.1 (Continued)

- Business is always open, twenty-four hours a day, seven days a week (24/7).
- Improved customer service and relationships. Direct interaction with customers.
- Ability to offer more products and services.
- Ability to reach a narrow market (niche market), such as dog toys.
- Allows for innovative business models. Facilitates innovation and enables unique business models.

Benefits to Consumers
- Increased convenience of shopping at any time from any place, twenty-four hours a day, seven days a week.
- Greater convenience of transacting online with minimal travel time.
- Helps save search time with rich and free information available and ease of finding what the customers needs, e.g. with details, demos.
- Access to cheaper products/services through comparisons and shopping for the lowest price.
- Access to more products/services by having a large selection to choose from (vendor, products, styles).
- Customised products/services for individual needs.
- Instant delivery for digitised products by downloading immediately upon payment.
- Ability to find unique items by using online auctions (e.g. collectible items can be found).

Source: Ernst & Young 1999; Gorham & Rice 2007; Richardson 2007; Turban et al. 2008.

Use of the Internet as a new medium for e-commerce has continuously grown at a double-digit rate year-over-year in the five years forecast for the US e-commerce from 2008 to 2012 (Mulpuru et al. 2008). According to Forester Research, B2C e-commerce in the US reached $175 billion in 2007 and is projected to grow to $335 billion by 2012, while European countries are expected to surpass annual purchases of US$330 billion by 2011 (Austrade 2006). Shoppers in Australia, the third biggest online shoppers in the world behind the US and UK and ahead of Canada and Japan, also spent 38% more on purchasing products and services over the Internet using their credit cards, from A$446.9 million in March 2004 to A$617.1 million in March 2005 (*Visa-asia.com* 2005). Additionally, B2C e-commerce sales in the Asia-Pacific region are estimated to grow at a

23.3% annual rate, reaching US$168.7 billion in 2011; the leading countries in this trend are Japan and South Korea (Grau 2008). Such figures illustrate that buying online is becoming more acceptable to many people (Chen & Dubinsky 2003).

Despite the continued growth of e-commerce, B2C e-businesses face several challenges. First, the rapid growth of e-commerce has the potential to increase competition for online businesses (Porter 2001; Shin 2001). The Internet enables businesses to expand to wider geographical markets, making it easier for new entrants to enter markets (Porter 2001; Turban et al. 2008). The intensity of competition has in the past forced many dot-coms out of the market (Porter 2001).

Second, customers have more bargaining power with Internet shopping because customers are able to access a global marketplace and find inexpensive products online in a quicker way (Porter 2001). By using shopping search engines, customers can find what they want and compare prices (Office of Fair Trading 2000; Porter 2001; Turban et al. 2008). Since customers are able to search from several vendors, their switching cost is low. Consequently, customers' brand loyalty has declined (Porter 2001; Srinivasan et al. 2002).

Finally, customers primarily use the Internet as an information source and not as a purchasing medium (Wyner 2001). Wyner's (2001) findings show that only 9% of online users surveyed used the Internet primarily for purchases. Indeed, online stores are considered to be a second choice for shoppers (Mulpuru et al. 2008).

The challenge for B2C e-business is how to compete in e-commerce and increase customer purchase intentions (Razi et al. 2004). Woodruff (1997) claims that customer

value will be a key player in the next source for competitive advantage. Also, Chang et al. (2004) and Keeney (1999) suggest that customer value plays a significant role in Internet commerce success. Customer value has been one of the main interests among marketers and researchers since it helps predict purchase behaviour and helps businesses learn how to gain competitive advantage (Bolton & Drew 1991; Cronin et al. 2000; Dodds et al. 1991; Holbrook 1999; Zeithaml 1988). The key success factor for companies is how to offer products or services that provide real benefits that add more value tailored to customer's needs (Burns & Woodruff 1992; Porter 2001; Woodruff 1997). The emergence of Internet technologies and electronic commerce provides a great opportunity for companies to create and deliver value to their customers (Keeney 1999). In creating unique value for customers, Porter (2001) has suggested that business must offer a different set of features, a different array of services, or different logistical arrangements. Keeney (1999) argues that customer value in e-commerce includes not only the product offered but also the process of finding, ordering, and receiving it. Additionally, Amit and Zott (2001) suggest that e-business can create and deliver value through offering complementary goods and/or services. The authors state that 'complementarities are present whenever having a bundle of goods together provides more value than the total value of having each of the goods separately' (Amit & Zott 2001, p. 504).

Complementarities have been studied in several disciplines, such as economics (Spiller & Zelner 1997), marketing (Chernev 2005; Harlam et al. 1995; Herrmann et al. 1997; Lattin & McAlister 1985; Varadarajan 1985; Walters 1991), manufacturing (Milgrom & Robert 1990); and information technology (Zhu 2004). Within the economics literature, the notion of complementarity has been studied from the microeconomic perspective as the concept of negative cross elasticity of demand that

focuses on only two goods (Mankiw 2007). For instance, when the price of gasoline increases, the demand for automobiles decreases. Rather than consider complementarity from products' cross price elasticities, marketing literature focuses on product-specific utilities (Chernev 2005). In this context, complementary products are defined as those chosen to fulfil different aspects of a consumer's needs and are usually consumed jointly (Lattin & McAlister 1985; Walters 1991). Further, the notion of complementarity can be used to explain a relationship among groups of activities in the manufacturing processes (Milgrom & Robert 1990). However, in the Internet environment, value can be created in e-business through complementarities between products and services. On the Internet, a company can offer complementary products and services to customers that are offered by its partners, alliances, or counterparts: for instance, an airline company that offers complementary products and services such as hotels and car hire to travellers. E-businesses can also create complementarities between activities of participants in the supply chain, complementarities among technologies such as linking the imaging technology of one business with the Internet communication technology of another, and complementarities between online and offline business that allow customers, for example, to browse and order online, and to receive the product in bricks-and-mortar stores (Amit & Zott 2001).

There have been a number of studies that have examined customer value in e-commerce (Chen & Dubinsky 2003; Han & Han 2001; Keeney 1999; Yakhlef 1998) and e-commerce success (Chang et al. 2004; Torkzadeh & Dhillon 2002). However, there is scant empirical research that has directly investigated the value of complementary products and/or services offered by B2C e-businesses.

1.2 Research Objective and Research Questions

The purpose of this study is to examine customers' perceived value of complementary products and/or services offered by B2C e-businesses, and to understand the role of complementarities in creating value for customers both as individual and combined offerings. Additionally, the relationships between customers' perceived value and their future behaviour will be investigated. This study will address the following research question and sub-questions:

Main Research Question:

What is the value of complementary products and services in e-business?

Sub-Research Questions:

1. What complementary products/services offered by e-business affect customers' perceived value? And how?

2. Do interaction effects between these product/service complementarities affect how customers perceive value? And how?

3. To what degree does the value customers place on product and/or service offerings relate to their future behaviour toward the company?

1.3 Significance of this Study

This study aims to expand the knowledge of complementarities in B2C e-business by linking together the concepts of complementarities, value creation, and e-business. The offering of complementary products and services is proposed as a strategy to enhance customer value in B2C e-business.

The role of complementarities in the online environment on value creation has been expanded from traditional offerings to include complementarities between products and services (Amit & Zott 2001), between the process of finding, ordering, and receiving the product (Keeney 1999; Lumpkin & Dess 2004), and between online and offline services (Amit & Zott 2001; Steinfield et al. 2002). These will be discussed in turn.

First, the Internet enables companies to offer more complementary products and services that create more value for customers than traditional offerings. E-businesses can provide their customers with a wide range of complementary products and services that are related and/or unrelated to the core offering (Amit & Zott 2001))—a capacity that is limited in the offline environment. The complementary products and services offered by e-business may be vertical (complementary services such as after-sales service) (Amit & Zott 2001; Gummesson 1999; Pepers & Rogers 1997) or horizontal (similar products or services such as camera and film) (Amit & Zott 2001; Kandampully & Promsivapallop 2005) complementarities offered by partner firms. This creates a larger network of providers that provide products and services for the holistic needs of customers (Kandampully 2000; Normann 1984, 2000). These complementary products and services offered by e-business add value to the core offerings (Amit & Zott 2001).

For instance, *Amazon.com*, an online bookstore, not only sells books online but also offers a large selection of products and services, such as music, DVDs, video, software, computer games, and electronics and other merchandise (Turban et al. 2008). Additionally, e-businesses are able to increase personalisation and customisation of product offerings (Bakos 1998). For example, *Amazon.com* provides its customers with reviews of the book and recommendations of other books or authors for similar topic areas when a customer searches for a certain topic (Turban et al. 2008). Moreover, extra

free services can be offered to customers, such as online greeting cards, chat rooms, current news and weather reports, and travel maps (Bertsch et al. 2002). By aggregating products and services with a larger network of providers of complementary products, companies are likely to create more product assortment value than they would create by separate offerings (Bakos 1998; Bertsch et al. 2002).

Second, an e-business is able to offer online self-service complementarities that allow customers to search for product information, and perform purchase transactions, as well as receive after-sales services online. Customer service, when bundled with products, can be a source of customer value (Gronroos 1997; Humberg et al. 2002). These online self-services can provide the value-added consumer benefits of shopping convenience at any location, 24 hours a day, seven days a week, without trading hour restrictions, as well as saving travel time to a store to purchase the product (Ernst & Young 1999; Turban et al. 2008).

Finally, complementarities between online and offline services can be offered together (Amit & Zott 2001; Steinfield et al. 2002): for example, searching for information online, making a purchase in the bricks-and-mortar store, or ordering online and receiving the product in the bricks-and-mortar store. This would not be possible in the traditional bricks-and-mortar environment. The majority of these purchasing activities occur at the store only. For example, customers are required to visit the store to purchase, receive and/or return the product as well as get customer sales support (Otto & Chung 2000; Bertsch et al. 2002). The synergy of the combined online and offline products and services makes shopping processes more convenient and flexible for consumers.

This study provides frameworks that incorporate the main components of complementarities as well as the interaction of factors that can help enhance customers' perceived value, thus making one offering more attractive and preferable than another. The integration of these offerings may assist B2C e-businesses to create more value than if the products or services were being separately offered (Amit & Zott 2001; Keeney 1999: Steinfield et al. 2002). This information is useful for e-businesses to understand how to create value for customers.

This study may be beneficial for B2C e-businesses to understand the components of complementary products and services that affect customers' perceived value. This in turn will help e-organisations develop marketing strategies by offering complementary products and services that create value for customers. This study will also be of value by suggesting what types of product and service complementarities should be offered, whether related or mixed-related product components, by B2C e-businesses to create value for customers. This study will also be useful for B2C e-businesses in confirming that offering a wide product range, greater online service, and greater offline service helps to create more value than a narrow range of products, and a limited online or offline service. Additionally, this study will offer B2C e-businesses examples of how to combine these offerings in order to help create more value to customers. Therefore, by offering complementary products and services, either as an individual or bundled offer, B2C e-businesses may be able to attract new customers to visit the company website and purchase their products as well as revisit the company website in future.

1.4 Scope of the Study

This study will focus on customers' perceived value of complementary products and services offered by B2C e-business and on consumer decision-making at the pre-purchase stage through research involving subjects' practising airline ticket booking online. This approach is adopted because customers spend much time and effort using websites at the pre-purchase evaluation stage of online purchasing (Chen et al. 2003). In addition, customers' perceived value is proposed to have an influence on customers' behavioural intentions (Section 1.3).

This research was also restricted to the travel industry because of its particular characteristics that were appropriate for this study. Online travel agencies offer their customers a range of products and services, including travel bookings, hotel reservations, car rentals, vacation packages, travel insurance, money services, and gifts as well as additional services such as travel guides, currency conversion calculators, and weather information. Some online travel websites also provide online purchasing services and offline services complementarities.

Additionally, the Internet provides opportunities for the travel industry to offer travel products online and gain major product sales via this e-commerce medium (*Netstarter.com.au* 2008). Travel products purchasing has grown rapidly among Internet users in the US (Grau 2006) and in Europe, for example Ireland, Norway, Finland, and Spain, as well as in the Asia Pacific such as Australia, New Zealand, Malaysia and Singapore (ACNielsen 2005, 2006). By 2010, online travel sales are expected to reach US$146 billion, at a 17% annual growth rate. Approximately 46% of total travel sales are booked online, second only to computer hardware/software (55%) in the B2C e-commerce categories (Grau 2006, 2007).

Despite the high growth rate of purchasing travel products online, travel agencies, as intermediaries, face a threat from airline and wholesale travel companies that offer their products and services directly to customers, bypassing the assistance of travel agencies (Standing & Vasudavan 1999). In order to stimulate online travel sales, a travel website should offer products and services that meet customer needs (*Netstarter.com.au* 2008). However, little work has been conducted that explores Internet strategies in the travel industry (Standing & Vasudavan 1999). To respond to this call, this study will investigate the role of complementary products and services offered by online travel agencies in creating value for customers.

1.5 Research Methodology

The methods used in this study comprise a mixture of methods, firstly using an experimental study, and then using face-to-face interviews. The experimental study was chosen because it provides an opportunity to simultaneously test a wide range of alternative stimuli and is considered to be an effective way to achieve results (Easton & McColl 1997; Hair 2006; Holland & Cravens 1973; Keppel 1991; Wyner 2001).

1.5.1 Experimental Study

In order to test a set of hypotheses derived from an analysis of existing and relevant literature (Chapter 2.5), 16 hypothetical online travel websites were created by the researcher (Appendix H). The experiment was conducted using a travel scenario based on travel to Phuket, Thailand. Subjects were asked to perform travel exercises following specific instructions. After finishing the exercises, subjects were then asked to rate their perceived value and future behaviour toward the company, such as searching for information, purchasing the product and revisiting the website in future.

Data will be analysed using analysis of variance (ANOVA) to compare the mean difference between the levels of manipulation variables on customers' perceived value as well as the combined effects of these variables. ANOVA is described in detail in Chapter 3.2.5. Further, the relationship between customers' perceived value and behavioural intention will be examined using regression analysis (Chapter 3.2.5).

1.5.2 Face-to-Face Interviews

Triangulation of the results that emerge from the experiment will occur through face-to-face interviews. These interviews will be conducted to increase the validity of the results of the experimental findings using semi-structured, open-ended questions. The interviews will use a travel scenario which is similar to the scenario used in the experiment. The interviewees will be asked to perform travel exercises following specific instructions and use a hypothetical website created for this study that contains a large number of travel products and/or services that cover basic and additional needs for the hypothetical trip. During the interview exercise, interviewees will be asked to respond to questions relating to the activities undertaken in the travel exercise. Data from the interviews will be analysed by the researcher, using systematic categorising and labelling to find the criteria used for decision making and website evaluation (Neuman 2006; Powell & Renner 2003). Details of the face-to-face interviews will be provided in Chapter 3.3.

1.6 Structure of the Thesis

The remainder of this thesis is organised into six chapters. Chapter 2 provides a review of the literature on value creation in electronic business. The chapter begins with a discussion on how e-business can create value for both the company and the customer.

The chapter reviews types of e-business and then explores the existing literature on value creation for both offline and online environments. From value creation in e-business, the literature then focuses on products/services complementarities as one of the value drivers in e-business. The chapter also outlines the conceptual framework and identifies the hypotheses to be tested.

Chapter 3 describes the research methodology employed for this study. The chapter argues that the experimental study is a plausible method to be used to test the hypotheses proposed in Chapter 2. The reasons for employing an experimental study are thus provided. This chapter also includes a description of the development of a questionnaire and the development of 16 hypothetical travel websites stimuli used in the experiment. The 16 website-based hypothetical travel services were developed to mimic real online shopping situations. Manipulation checks were conducted for validity of treatments (independent variables) in the experiment. Pilot testing and main study procedures are also included.

Additionally, this chapter presents details of the face-to-face interviews conducted to validate the experimental results. The chapter contains narratives which summarise and report on the online shopping behaviours of ten interviewees. The interviews were conducted in conjunction with a travel exercise.

Chapter 4 reports the results of the online travel website-based experiment from Chapter 3. Data is analysed using analysis of variance (ANOVA) to reveal the effects of four main factors (independent variables) and their interaction (combination) effects. Finally, the relationship between customer value and future behaviour is reported using regression analysis.

Chapter 5 summarises the findings from the face-to-face interviews. Two exemplar interviewees are presented to illustrate two distinct shopping behaviours. The interviews are useful in understanding customers' behaviour when shopping online.

The last chapter, Chapter 6, presents a discussion of the findings from the data analyses, presents the conclusion in relation to the literature reviewed in Chapter 2, identifies the limitations of the research, and offers suggestions for future research directions.

Chapter 2

THE VALUE CREATED BY E-BUSINESS: A REVIEW

2.1 Introduction

This chapter reviews the relevant literature with regard to the concept of value in electronic business (e-business) within three frameworks. First, the nature of e-business is explored, focusing on e-business as an opportunity as a new channel for businesses to offer products and services as well as communicate with customers and provide customer service. Second, value creation in the Internet environment is discussed. This includes value creation from both the business and customer perspectives. Finally, product and service complementarities are discussed. These include complementarities between products and services, online buying services, and offline services in B2C business. Following this, the conceptual framework and hypotheses proposed in this study are further developed.

2.2 Electronic Business

The emergence of Internet technologies has opened opportunities for companies to conduct their business over the Internet (Farhoomand & Lovelock 2001; Lawrence et al. 2003; Parasuraman & Zinkhan 2002; Turban et al. 2008). Companies exploit the Internet as a new channel to conduct and execute business functions such as marketing, selling, and distribution with their customers and business partners (Farhoomand & Lovelock 2001; Ghosh 1998; Turban et al. 2008). Electronic business (or e-business) can be defined as 'not just the buying and selling of goods and services but also servicing

customers, collaborating with business partners, conducting e-learning, and conducting electronic transactions *within* an organization' (Turban et al. 2008, p.4). The terms e-business and e-commerce are often used interchangeably. However, some authors consider e-commerce to be a part of e-business (Surjadajaja et al. 2003), and this is described as 'the process of buying, selling, transferring, or exchanging products, services, and/or information via computer networks including the Internet' (Turban et al. 2008, p. 4). Additionally, e-commerce is used interchangeably with Internet commerce (Keeney 1999; Lawrence et al. 2003). Keeney (1999, p. 533) defines Internet commerce as 'the sale and purchase of products and services over the Internet'. The scope of e-business, therefore, is broader than that of e-commerce, such that the former includes physical products and the distribution of goods as an integral part of the overall transaction process (Greenstein & Feinman 2000).

Electronic commerce has been used by businesses to connect with their business partners and/or customers, and is called business-to-business electronic commerce (B2B e-commerce) where all participants are businesses (Turban et al. 2008). Business-to-business e-commerce refers to 'transactions between businesses conducted electronically over the Internet, extranets, intranets, or private networks' (Haig 2003; Mockler et al. 2006; Papazoglou & Ribbers 2006; Sadeh 2003, all cited in Turban et al. 2008, p. 219). For example, Dell electronically purchases components from its suppliers. According to Mockler et al. (2006), over 85% of e-commerce volume today is B2B e-commerce (cited in Turban et al. 2008). B2B e-commerce can be used to reengineer supply chain management (SCM), which is defined as 'the process of optimizing the shipment of goods and services from supplier to customer. The goals of SCM are to optimize production, decrease manufacturing time, minimize inventory, streamline order

fulfilment and reduce cost' (*SupplyChainManagement101.com* 2005). E-supply chain has been employed in many businesses to improve SCM and is defined as 'the collaborative use of technology to improve the operations of supply chain activities as well as the management of supply chains' (Turban et al. 2008, p. 309).

General Electric (GE), the world's second largest vehicle manufacturer, uses B2B e-commerce to improve resource procurement by automating the bidding process using reverse auctions on its e-procurement site from suppliers around the world over the Internet (Turban et al. 2008). E-business in several firms is used for strengthening online connections with customers, disseminating product information, facilitating transactions, improving customer service, and managing inventory via electronic links with suppliers (Zhu 2004).

On the other hand, when a business uses the Internet to connect to its customers it is called business-to-consumer (B2C) e-commerce. In B2C e-commerce, online transactions are made between businesses and individual consumers. B2C e-commerce includes 'retail transactions of products or services from businesses to individual shoppers' (Turban et al. 2008, p. 8): for example, a customer of Dell online, or *Amazon.com*. *Amazon.com* started as an online bookstore selling books directly to its customers over the Internet and delivering books to the customer's home. After success as a cyber-bookstore, Amazon expanded its offerings to a vast array of products and services, such as music, DVDs, video, software, computer games, electronics and other merchandise (Turban et al. 2008). B2C e-commerce is also called electronic retailing, or e-tailing, where retailing is conducted online, over the Internet (Lawrence et al. 2003; Turban et al. 2008).

This study focuses on B2C e-commerce because the research deals with a company that offers products and/or services to an individual customer rather than to businesses. The purpose of this study is also to investigate the offering of complementary products and/or services that can be used to create value for customers, as well as the influence of customer value on behavioural intentions. This study will use the terms B2C e-commerce and B2C e-business interchangeably.

B2C e-commerce has grown rapidly in several parts of the world, such as Europe, the USA and Australia (ACNielsen 2005, 2006; Amit & Zott 2001; Mulpuru et al. 2008; Nicholls & Watson 2005; Zott et al. 2000). This fast growing trend indicates that Internet commerce has the potential to offer customers a better deal when compared to purchasing from a traditional store (Keeney 1999). Previous literature on e-commerce has focused on what drives a customer to shop online. A number of theoretical frameworks have been used to explain this phenomenon such as the technology acceptance model (TAM) (Davis et al. 1989; Bhattacherjee 2001; Devaraj et al. 2002; Mahmood et al. 2004; Monsuwe et al. 2004; Chiu et al. 2005), the theory of reasoned action (TRA) (Fishbein & Ajzen 1975), the theory of planned behaviour (TPB) (Ajzen 1991), and transaction cost analysis (TCA) (Williamson 1975, 1987; Lee & Clark 1996; Malone & Laubacher 1998; Devaraj et al. 2002). Each of these studies examines different influences on consumer behavioural intentions towards online shopping, including perceived usefulness, perceived ease of use, time efficiency, innovativeness, and security. However, several e-businesses or dot-coms failed and disappeared from the market during the period 1999-2000 (Razi et al. 2004). It is believed that this occurred because these e-businesses did not respond adequately to their customer needs (Maravilla 2002; Razi et al. 2004) and had poor customer support, delayed delivery, and failed to provide any distinct advantage in their offers (Razi et al. 2004).

Keeney (1999) and Han and Han (2001) suggest that the key driver for e-business success is customer value. Despite using the Internet as a direct channel to reach customers, companies should exploit this opportunity by offering value-added service to their customers. There has been limited attention given to the study of customer value in e-business. Customer value plays an important role in business success because it enables the prediction of purchasing behaviour and helps businesses to gain a competitive advantage (Bolton & Drew 1991; Cronin et al. 2000; Dodds et al. 1991; Holbrook 1999; Zeithaml 1988). Customer value has received increasing interest from researchers seeking to develop an understanding of what is perceived as value from a customer's point of view. A company needs to determine and take into account what components customers really value when offering value to their customers (Payne & Holt 2001). This information can therefore assist the company when creating new products, redesigning existing products, and/or improving the delivery of products to customers (Keeney 1999).

This study will focus on the customer value gaps by exploring the customer value of complementary products and services as individual or joint offerings that have the potential to fulfil customer needs within B2C e-business. In the next section, value creation in e-business will be explored.

2.3 E-Value Creation

Internet technologies create opportunities for businesses to deliver value to customers, or value proposition, by offering a bundle of products and services that together represent the value of fulfilling customer needs (Kambil et al. 1997, cited in Currie 2004). In relation to this, value creation in e-business can be viewed as value

perception from the customer's point of view. Both views will be explored in the following sections.

2.3.1. Value Creation in E-Business

Value creation in e-business has been based on a range of concepts including a value chain perspective (Rayport & Sviokla 1995; Yakhlef 1998; Lawton & Michaels 2001; Porter 2001), value-adding strategies (Yakhlef 1998; Han & Han 2001), virtual markets characteristics (Zott et al. 2000), and business models (Amit & Zott 2001).

The concept of the *virtual value chain* is adapted from Porter's (1980) value chain framework, which identifies a set of activities through which a product or service is created and delivered to customers, and how these activities affect both a company's costs and the value offered to customers. The Internet enables companies to create a virtual value chain of a series of traditional value-adding activities connecting a company's supply side (raw materials, inbound logistics and production processes) with its demand side (outbound logistics, marketing and sales) (Rayport & Sviokla 1995).

Rayport and Sviokla (1995) focus on the strategic use of information in the virtual value chain to add value through five activities: gathering, organising, selecting, synthesising, and distributing information. The integrated information at each stage of the value chain helps companies discern their value chain from inbound logistics and production through sales and marketing. By exploiting value-adding activities across both chains, companies are able to develop new customer relationships. Companies not only utilise the Internet to add value to the company's internal process, but also to create value for the customer. In online sales, these value-adding activities focus on the activities that facilitate the customer buying process. Lumpkin and Dess (2004) argue that companies

can use the Internet to develop new value propositions and create competitive advantages through four value-adding activities: *search, evaluation, problem-solving,* and *transaction.*

Rayport and Sviokla's (1995) virtual value chain has been further studied by Yakhlef (1998) who argues that companies can exploit the Internet to create three value-adding strategies to gain competitive advantage: content, context, and infrastructure. A value-adding content strategy involves 'creating content that has a unique, innovative, or functional appeal' (Rayport & Sviokla 1994, in Yakhlef 1998, p. 610). A context-focused strategy is concerned with the creation of an informational context in which producers and customers interact. While the focus of a value-adding content strategy is on *what* companies are offering to create added value to the customer, a context-focused strategy focuses on *how* the virtual context offers customers a more cost-efficient and/or convenient way of learning about or of relating to the product (or content), and of buying and having it delivered rather than interacting with the physical marketplace only.

Similarly to Yakhlef (1998), Han and Han (2001) consider content and context strategies as new modes of value creation and distribution in e-business. These authors argue that customer value can be created and/or enhanced by changing two components: the content and the context. The difference between the two components is the type of benefit they provide to the customer. While content value is defined as 'the generic benefit from the content of the transaction', context value is defined as 'the additional benefit offered from the subsidiary functions and/or characteristics of the transaction' (Han & Han 2001, p. 28). Content can be products, services or information that are offered on the Internet business site (Huizingh 2000). Context value refers to the value in the process of acquisition or its delivery, and appeals to an emotional response.

This concept can be illustrated using *America Online* (AOL), a market space newspaper. AOL creates value for its customers by providing a new context that allows their readers to customise a variety of content (news items) they wish to consume using the stakeholders' infrastructures (Rayport & Sviokla 1994). These news items also belong to several national newspapers. This new context offered by AOL is more cost-efficient and convenient for customers than purchasing the physical newspaper itself. The company, therefore, can exploit the Internet as the infrastructure offers a new context for providers and consumers to meet, interact, transact and exchange interests, thus deepening customers' knowledge of the specific content they wish to consume (Yakhlef 1998). Additionally, Lumpkin and Dess (2004) have suggested three types of website content that each can be used as a source of competitive advantage. These include *customer feedback, expertise*, and *entertainment programming*. Customer feedback, such as customer testimonials, can be used to increase trust and increase the chance of customers purchasing online. Customers also value websites that provide knowledge or unbiased information. For example, a 'Help Centre' for online loans that includes information about obtaining a loan, maintaining good credit and sharing expert knowledge that helps build a sense of community in the industry would be seen as highly valuable. Additionally, many customers are looking for entertainment programming such as TV viewing, online movies, and games online from the website. Such content might help increase company product sales.

From a marketing point of view, value in e-commerce can be created from the three unique characteristics of virtual markets: *reach, richness,* and *digital representation* (Zott et al. 2000). These three virtual market characteristics enhance a firm's communication capability to all parties, including business partners and customers. The

Internet has affected the way businesses reach their partners and customers by allowing them to connect with a large number of partners, suppliers, alliances and customers. Additionally, all parties can make use of the rich information flow which is deeper and wider than that available through traditional channels. For example, buyers have a greater choice of product and service information available to them, whereas sellers have more information about consumers' buying behaviours and characteristics to identify and offer products that specifically target customers. Finally, with digital representation, customers are able to perform transactions online. This, however, might create a barrier to purchasing since customers have no ability to touch and feel the product, to visit a physical storefront or to interact with a sales representative.

Therefore, to exploit these three unique characteristics of virtual markets to create value in e-commerce, Zott et al. (2000) have suggested that two main strategies—*efficiency* and *stickiness*—be employed by e-business. These authors argue that e-business can create value for all parties involved in a transaction if businesses are able to do the following effectively: strengthening the supply chain, reducing supplier costs and integrating vertically, providing a large array of products and services, making the transaction convenient for the consumer, allowing the consumer to save time, and by reducing the asymmetry of information among parties. Additionally, companies are able to create value by creating stickiness to facilitate repeat transactions through rewarding customers for their loyalty, personalising the product or customising the service, building virtual communities, and establishing a trustworthy reputation in the transaction.

Value creation in e-business was further examined by Amit and Zott (2001) who focused on business models. These authors proposed new insights into e-business value creation through four interdependent value drivers: *efficiency, complementarities, lock-in*

and *novelty*. This new e-business value creation expands Zott et al.'s (2000) value creation model in e-commerce by proposing the role of complementarity and novelty factors as value drivers in e-business. The terms complementarity will be discussed in greater detail in Section 2.4. In the Internet environment, an e-business is able to exploit this advanced technology to create and deliver complementarity value to customers through offering complementarities between products and services, activities, technologies, and online and offline assets. Novelty can be considered as offering new transaction structures, new transaction content, or new participants. Additionally, the role of the lock-in is expanded to include stickiness, switching costs and positive network externalities.

Previous literature also supports the strategic use of corporate websites to create value as a commercial and communications medium in several countries. Griffith and Krampf (1998) examined the strategic use of web-based retailing in the top 100 US retailers. From in-depth interviews, website observations and a review of the web-based literature, they revealed three strategic objectives for establishing websites: *online sales*, *communication*, and *customer service*. These objectives relate primarily to advertising, public relations and customer service access companies.

Nicholls and Watson (2005) claim that e-commerce can be used as a competitive tool for value creation through three strategic e-value-adding concepts: *firm infrastructure*; *marketing and sales*; and *logistics and fulfilment*. In order to find out how firms implement these e-value-adding strategies, Nicholls and Watson (2005) conducted a survey of 500 UK retailers. They found that 'in-house' is the most popular structure adopted to manage the web business followed by developing a partnership and a joint venture. For marketing and sales strategies, the Internet was used to maintain an online

presence for the business for the purpose of brand reinforcement, improvement of public awareness of the company and attracting new customers. Additionally, online business is using websites to offer an opportunity for a new business to complement their traditional stores. However, department and variety store retailers were least likely to have a fully transactional website. Results concerning logistics and fulfilment objectives for each online company in Nicholls and Watson's study showed that the majority of companies charged for delivery of goods. From these findings, it was concluded that the Internet was used as an important tool, not only for an alternative *sales channel*, but also as a *communication tool* in order to strengthen the brand, by a majority of retailers surveyed.

Similar results for Singapore online businesses were revealed by Soh et al. (1997), who highlighted that three of the top four major commercial uses of the Internet were for services-related activities including: *conducting electronic transactions; gathering consumers' feedback;* and *providing customer service and support.* Moreover, in Australia, Adam (2002) conceptualised a strategic use of the Web in a direct and online marketing model. From surveying 248 Australian companies, results of a factor analysis revealed that over 80% of the respondents used the Web for *marketing communication*, mainly to communicate product and service information. Additionally, the results revealed that respondents use the Web for *maintaining customer relationships* and for *online fulfilment processes* such as generating online transactions (orders). Table 2.1 summarises the functional characteristics of commercial websites derived from the previous research.

Table 2.1 Functional Characteristics of Commercial Websites

Author (s)	Area of study	Findings
Hoffman et al. (1995)	Classification of commercial websites	Online storefront; Internet presence (flat ad, image, information); content (fee-based, sponsored, searchable database); mall; incentive; search agent.
Cappel and Myerscough (1997)	Business use of the Web	Marketplace awareness; customer support; sales; selling advertising; electronic information services.
Soh et al. (1997)	Commercial use of the Internet	Conducting electronic transactions; gathering consumers' feedback; and providing customer service and support.
Griffith and Krampf (1998)	Web-based strategies	Online sales (advertising); communications (public relations); customer service (customer service access).
Huizingh (2000)	Content and design of commercial websites	Information; transaction; entertainment; site navigation etc.
Adam (2002)	Strategic use of the Web in direct and online marketing model	Marketing communication; maintain customer relationships; online commercial transactions.
Nicholls and Watson (2005)	E-value adding	Firm infrastructure; marketing and sales; logistics and fulfilment.

However, what companies are offering might not be perceived as value from the customer's viewpoint. Therefore, it is important to identify what factors create e-commerce value from the perspective of the customer.

2.3.2 Customer Value of E-Commerce

Besides focusing on value creation from a business point of view, several studies have focused on the customer value of electronic commerce in an attempt to identify what factors create e-commerce value for customers. A business needs to understand what customers want from Internet shopping for e-commerce success. The focus of these studies is on activities that occur prior to decision-making. Previous studies (Chang et al. 2004; Keeney 1999; Torkzadeh & Dhillon 2002) have explored how customers evaluate value offered by e-commerce when compared to conventional shopping. Keeney (1999) developed a list of customer values influenced by Internet purchases by using a value-focused thinking approach. This was carried out by interviewing more than 100 individuals about their opinions on purchasing online versus conventional shopping. The author proposed two sets of variables: *means objectives* (what is important for customers, such as minimised fraud, assured system security, maximised access to information) and *fundamental objectives* (ultimate value about which customers care and which influences their overall satisfaction such as maximised product quality, minimised cost, maximised convenience, and minimised time spent) and their relationships. These findings are useful for a business when designing an Internet commerce system, create and redesign products, and increase value for customers.

Keeney's findings were further examined by Torkzadeh and Dhillon (2002) in an attempt to measure the factors that influence the success of Internet commerce. Torkzadeh and Dhillon (2002) developed and recommended two sets of variables for measuring means and fundamental objectives leading to Internet commerce success. They used a sample of 199 graduate and 421 undergraduate students at a state university in the south-western region of the United States, who had experience in shopping through

the Internet, in a two-phase study. The surveys using self-administered questionnaires revealed four factors and 16 items that were then used to measure customer value instrumented by *fundamental objectives:* Internet shopping convenience, Internet ecology, Internet customer relations and Internet product value. These fundamental objectives can be enhanced via Internet operations, instrumented by five factors and 21 items, of *means objectives:* Internet product choice, online payment, Internet vendor trust, shopping travel and Internet shipping errors.

Torkzadeh and Dhillon's (2002) measurement model was re-examined by Chang et al. (2004). Chang et al. (2004) proposed a second-order model to test fundamental objectives using structured equation modelling. The data-gathering methods and the instruments were identical to those used by Torkzadeh and Dhillon (2002). Results from 331 respondents confirmed the original measurement models. However, the item scales were shortened to a five-factor (15-item) scale for means objectives and a four-factor (8-item) scale for fundamental objectives.

Numerous other researchers, as shown in Table 2.2, examined factors that have affected customer value in electronic commerce. These can be grouped into the following: (1) product selection/choice, (2) shopping convenience, (3) ease of ordering, (4) product information, (5) product prices, (6) customer service, and (7) personalisation.

Table 2.2 Factors that Affect Customer Value as Identified in the Literature

Author (s)	Area of study	Findings
Jarvenpaa and Todd (1996-97)	Consumers' attitudes towards online shopping	Product perception (price, quality and variety); shopping experiences (effort, compatibility and playfulness); customer service (responsiveness, assurance, reliability, tangibility and empathy); customer risk (economic risk, social risk, performance risk, personal risk and privacy risk).
Ghosh (1998)	Value of the Internet	Convenience; information; personalisation; interactivity.
Margherio et al. (1998)	Internet shopping	Choice; convenience; better and more complete information; lower price; personalisation.
Zeithaml et al. (2000)	Consumers' motivations for shopping on the Web	Convenience; buy unusual items; comparison shopping; lower prices.
Anckar et al. (2002)	Customer value(in online grocery shopping)	Competitive prices; broad/ assortment products; shopping convenience; customer services.
Burke (2002)	Internet shopping	Ease of navigation, flexibility; efficiency; site aesthetics; price knowledge; reliability; responsiveness; access; assurance; customisation/ personalisation.
Reibstein (2002)	Attribute importance of online store	Navigation; privacy policies; product information; customer service; ease of ordering.
Chen and Dubinsky (2003)	Customers' perceived value	Valence of online shopping experience; perceived product quality; perceived risk; product price.

It can be concluded from the above discussion that e-businesses can exploit the Internet as an online sales channel to offer products and services to customers as well as to provide customer service and communicate with customers. Customers also gain a range of benefits from e-commerce such as the convenience of transacting, variety of product choice, and personalisation of their needs.

The Internet has changed the way companies offer products and services to customers as well as enhanced companies' product offerings (Mohammed et al. 2004). Not only are companies using the Internet to offer the core product or service itself, but they are exploiting this technology to create and deliver value through complementary products and services, as suggested by Amit and Zott (2001). However, there is scant empirical research that has directly investigated customer value of complementary products and services offered by e-business. In the next section, the concept of complementarity will be discussed in more detail.

2.4 Complementarity

Complementarities have been studied in several disciplines, ranging from economics, marketing, manufacturing, organisation information technology to e-business. This study analyses the concept of complementarity as enhancing customers' perceived value of products and services offered by B2C e-business. In the next sub-section, complementarity is defined and then its applications in business are reviewed.

2.4.1 Definition

The concept of complementarity has been studied in microeconomics as the concept of negative cross elasticity of demand. On this account, two goods are

complementary if an increase in the price of one good leads to a decrease in the demand for the other (Mankiw 2007). For instance, when the price of gasoline increases, the demand for automobiles decreases. The notion of complementarity has been expanded and widely studied in marketing (Chernev 2005; Harlam et al. 1995; Herrmann et al. 1997), in manufacturing (Milgrom & Roberts 1990) and in e-business (Amit & Zott 2001). In the marketing literature, complementarity is considered to involve product-specific utilities that correspond to consumer needs rather than products' cross-price elasticity (Chernev 2005). Complementarity also extends to a relation among groups of activities in manufacturing processes (Milgrom & Roberts 1990), as well as between products and services, technologies, and online and offline assets in e-business (Amit & Zott 2001). These will be discussed next in more detail.

The notion of complementarity was first applied to the field of economics by Edgeworth in 1881 (Barua et al. 1996): 'activities are *Edgeworth compliments* if doing (more of) any one of them increase the returns to doing (more of) the others' (Milgrom & Roberts 1995, p. 181). In this context, complementarity illustrates that 'the value of having more of one factor increases by having more of another complementary factor' (Barua et al. 1996, p. 409). This notion is extended to the relation among groups of activities by Milgrom and Roberts (1990). They claim that 'several activities are mutually complementary if doing more of any one activity increases (or at least does not decrease) the marginal profitability of each other activity in the groups' (Scupola 1999, p.135). For example, by introducing CAD/CAM to the modern manufacturing systems, the manufacturer can save on costs of improving products and designing new products (Milgrom & Roberts 1990). Computer-aided design (CAD) equipment, flexible manufacturing technologies, shorter production runs, lower inventories, increased data

communications, and more frequent product re-designs are complementary. This can be extended to marketing as well. For example, in managing new orders, computerised order processing and a fast means of delivery are complementary to the quick response of the modern factory (Milgrom & Roberts 1990). Complementarity among activities, therefore, illustrates the mutual relationships of interdependence among activities, thus generating higher returns.

The notion of complementarity can also be used to explain the relationship between products or services that equate to more than two products or services: in other words, a bundle of products or services. In this regard, 'complementarities are present whenever having a bundle of goods together provides more value than the total value of having each of the goods separately' (Amit & Zott 2001, p. 504). Amit and Zott (2001) suggest that complementarity can be used to create value in e-business. These complementarities include offering complementary goods, vertical complementarities (e.g. after-sales services), or horizontal complementarities (e.g. one-stop shopping) that are provided by partner firms. Additionally, e-business may offer complementarities between online and offline assets or 'clicks-and-mortar' offerings, as well as complementarities among activities, such as supply-chain integration, and complementarities among technologies, such as linking the imaging technology of one business with the Internet communications technology of another.

The current study considers the notion of complementarity from the customer's point of view and is defined as a bundle of products and/or services chosen to fulfil different aspects of consumer needs, and provides more value than the total value of obtaining each product or service separately. The following sections discuss the literature on complementarity including products, services, and resource complementarities.

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2.4.2 Product Complementarity

The terms 'product complementarity' and 'complementary products' are used to signify relatedness in function (Spiller & Zelner 1997). Spiller and Zelner (1997) suggest that a functional complementarity exists between two stand-alone products when these products are capable of being used together and, as a result, the demand for each product is greater in the presence of the other product than it would be in the other product's absence. For example, using a telephone answering machine may help increase demand for both cassette tapes and telephones as the result of complementarities between the answering machine and the cassette tapes or telephones (Spiller & Zelner 1997). In the marketing literature, complementary products are defined as those chosen to fill different aspects of a consumer's need and are usually consumed jointly (Lattin & McAlister 1985; Walters 1991). Hence, product complementarity has been measured by the degree to which products tend to be consumed jointly. Consequently, the consumption of one product enhances the consumption of the other (Chernev 2005).

Complementary products have been widely used both in economics and marketing for several reasons. Early economics literature on bundling (Telser 1979; Schmalensee 1984; Guiltinan 1987) focused on the profitability of bundling in firms' performance via consumers' reservation prices, or the price that consumers are willing to pay for bundle components. Telser (1979) demonstrates that bundling can increase profits for a monopolist when it is composed of tie-in sales of complementary products, and this bundle is sold to different types of customers: for instance, IBM punch cards that tied in with its tabulating equipment or a copying machine that tied in with copier maintenance (Wright 2001). This benefit occurs because the total cost of a set of complementary products is lower than the sum of the separate items' costs.

Complementary products have been used as a marketing tool for joint sales promotion (Varadarajan 1985), and for bundling strategies (Harlam et al. 1995; Herrmann et al. 1997). Varadarajan (1985) suggests that complementary products can be used as an effective tool for joint sales promotion in various situations such as complementary usage situations (for example, toothbrush and toothpaste), and co-occurrence in processing to cater to a broader customer need (for example, the process of travelling may include a bundle of an airline ticket, a hotel and car hire).

Despite focusing on joint sales promotion, complementary products can be used as an effective tool for bundling strategies. Bundling is broadly defined as 'selling goods in packages' (Adams & Yellen 1976, p.475). Bundling strategies are increasingly being used pervasively by manufacturers, retailers, and service providers in order to differentiate their products and services from those of their competitors (Stremersch & Tellis 2002). Common practices of bundling in business include travel packages, luggage sets, automobile service packages, menu combinations at restaurants, and season tickets for sports or art performances.

Two common forms of bundling are: (1) pure bundling, in which sellers offer only the bundle to their customers; and (2) mixed bundling, in which both the bundle and the bundled items are offered to customers. Products or services in the bundle may consist of single-product combinations that are physically packaged together: for example, luggage sets that include various luggage items sold as a bundle. This has been referred to as price bundling (Adams & Yellen 1976; Tellis 1986), which normally uses a price discount to motivate the consumer's purchase of the bundle without any integration of the product (Stremersch & Tellis 2002).

Another type of bundle, called multi-product bundling, consists of an association of multiple products sold together for one price to satisfy different needs (Gaeth et al. 1990). In this case, the functional compatibility of products in the bundle can be varied. On the one hand, multi-product bundling can be taken in the form of a complementary set of products, or complementary bundles, in which the individual items function as a system or functionally related attributes (Telser 1979; Harlam et al 1995; Herrmann et al. 1997). For example, this might include a centralised lock system and an alarm system; computer and monitor; and a TV set and VCR. On the other hand, multi-product bundling can be taken in the form of non-complementary or functionally unrelated attributes (Herrmann et al. 1997), in which the bundle items are not functionally related: for example, a centralised lock system and a sunroof, printer and VCR. A company often offers a complementary bundle in the form of cross-selling or after-sales service (Herrmann et al. 1997).

Both economic theory and marketing empirical reviews have suggested that components of products and/or services in a bundle play an important role in the success of product complementarities (Herrmann et al. 1997). These streams of research on product complementarity, however, have been undertaken in the traditional offline environment. Complementarities between products and services are also widely used in the online environments for creating value for customers (Amit & Zott 2001).

The Internet can be used to expand company offerings into related product lines or radically altered product/service offerings (Shin 2001). Amit and Zott (2001) have suggested that value in e-business can be created by offering complementary products and services including vertical or horizontal complementarities that are provided by partner firms. This is because the Internet has changed the ways firms conduct their

business toward a new business model that incorporates partner firm products/services that are outside of their business boundary. The Internet helps firms extend the scope of their product/service offerings through relationships with firms selling complementary products (Steinfield et al. 2002; Bertsch et al. 2002).

This business model enhances a firm's capacity to broaden their product and service offerings to fulfil customers' holistic needs, including core and peripheral needs. These needs are sophisticated and frequently extend beyond a single firm's capacity (Kandampully & Duddy 1999). Therefore, by exploiting Internet technologies, firms are able to enhance their competency by forging alliances using network collaborations with their partner firms to form service packagings (Bakos 1998; Bushrod 2000; Ghosh 1998; Kandampully 2000; Normann 1984, 2000). This allows firms to mix and match various products and services to meet customer needs with the firms' core services (Edvardsson & Gustavsson 1992; Gronroos 2007). By aggregating services and products that traditionally were offered by separate industries e-commerce value can be created. For example, travel agencies can create value for their customers by providing travellers with information on the destination, accommodation, travel maps, books, weather details, and items to take (Amit & Zott 2001; Bakos 1998; McIvor et al. 2003).

Furthermore, some firms can distinguish themselves from competitors by providing added product depth or extra services to customers (Bertsch et al. 2002), while some firms offer some services to their customers for free. Examples of this include: e-mail; a personal web page; current news and weather reports; and travel maps. Some firms provide hyperlinks to web-based services and complementary products and gift offers of other companies for mutual benefit. By working together, companies are able to

deliver an enhanced shopping experience, greater interest, and increased product assortment value than if they were working separately (Bertsch et al. 2002).

When several complementary firms are linked, a unique value chain emerges, which in turn generates unique value propositions, opportunities for gaining competitive advantage, differentiation, cross-selling, scale economies, market-driving behaviour and premium pricing (McIvor et al. 2003). The total value of an offering can be increased through bundling products and/or services, which when put together are perceived to be of greater value (McIvor et al. 2003). By forming network partnerships, firms can effectively enhance their core competencies, add value to their service offerings, and generate positive word-of-mouth recommendations (Kandampully & Promsivapallop 2005).

McIvor et al. (2003) reveal strategies for using Internet technology for value creation in the airline industry, using Amit and Zott's (2001) value creation model. The authors conducted an in-depth analysis to compare established and low-cost airline companies' strategic uses of the Internet for creating value for customers. A structured questionnaire was developed based on four drivers of value creation. Techniques for both within-case analysis and cross-case analysis were used. Results concerning complementarities value showed that the airline industry offers value bundling of products and services through both vertical and horizontal collaboration/partnerships/alliances to form more valuable holistic travel packages. The airline industry also offers additional services not directly related to the core travel offering (for example, financial services), as well as taking equity stakes in online agencies.

In summary, e-businesses are able to create value-adding complementary products and services, incorporating a range of products/services either directly related or less-related to the core offering provided by partner firms, with the capability of net-enhanced opportunities. Hence, complementary products and services value can be created through product components and the range of products in the bundles offered.

2.4.3 Service Complementarity

Not only can using the Internet create value by providing product complementarities, but the Internet also can be used to create value by providing complementary services. As suggested by Humburg et al. (2002, p.86), in the case of retailing 'services are designed to augment the core offerings or add value rather than represent the core offering itself'. This is similar to Gronroos (1997) who suggested that services can also be used to enhance a customer's evaluation of product offerings. This was supported by Humburg et al. (2002), who view this value creation in terms of offering a bundle of benefits including products and value-added services. Humburg et al. (2002) have suggested that services play a significant role in delivering customer value for customer-oriented companies. Value-enhancing services may be offered in any phase of the customer purchasing process from a pre-purchase search for sources and evaluation of alternatives, to the acquisition process, or post-purchase support (Carlson 2000; Kolesar & Galbraith 2000; Betts 2001; Devlin 2001; Burke 2002; Zeithaml 2002; Chen & Dubinsky 2003). Thus, customer service, in addition to products, can be a source of customer value (Gronroos 1997; Humburg et al. 2002).

This study will focus on complementarities within the online purchasing process, which refers to complementary services offered to customers in acquiring products and

services online at each step of the purchasing process from pre-purchase to post-purchase. These services include: searching for information; making comparisons between products and services and evaluating alternatives; conducting the purchasing transaction; paying online; and receiving products online (for digital goods) or receiving purchase confirmation online; as well as post-sales online customer service.

Lumpkin and Dess (2004) claim that the Internet can be used to add value through four value-adding activities: search, evaluation, problem-solving and transaction. The Internet adds value to searching activities by enhancing the search capability of both the speed of information gathering and the breadth of information that can be accessed. This, in turn, reduces search costs for customers. In terms of evaluation of the alternatives, the Internet can add value by providing product reviews (ratings) as well as price comparisons that can help customers evaluate products and prices. The Internet can help customers solve their problems by indentifying problems or needs and generating ideas and action plans to address those needs; for example, a travel package that is provided by online travel services to help customers select from several options. Finally, transaction activities involve the process of completing the sale, including negotiating and contractual agreement, making payments, and taking delivery. These help lower the cost and speed up the transaction process. For example, Amazon's One-Click technology allows customers to make their online purchases rapidly.

McIvor et al.'s (2003) findings on the airline industry confirm that transaction efficiency was found to be the fundamental value driver of electronic business activities for this industry. This is because the Internet can help increase the transaction cost efficiency of online activities, from search activities (pre-purchase and usage) to remote transactions (purchase and usage). The efficiency results from real-time decision-making

(such as real-time flight reservations) that can be pursued by customers any time they wish, without any restriction of trading hours. Further, the ability to access a rich range of information and to compare prices helps with quick decision-making for customers.

Similarly, Keeney (1999) suggests that e-business is able to create value through the process of finding, ordering and receiving products in addition to the products and services being offered. This is supported by Kalakota & Whinston's (1997) order life cycle concept, which suggests that e-commerce can be used to support four phase activities: information-gathering activities, transaction activities, fulfilment activities and customer service activities (Zhu 2004). Within the Internet environment, customers gain significant experience in the online purchasing process. Many shoppers sense they are getting a better selection of items from which to choose, more personalised treatment, better information to make product and cost comparisons, and the opportunity to customise their purchase (Bakos 1998; Wyner 2001; Zhu 2004). In addition to information searching and gathering, in online sales complementary buying processes can be applied by providing electronic payment/settlement to facilitate online ordering as well as tracking the order status (Steinfield et al. 2002; Zhu 2004). This transaction value enhancement makes the shopping process easier and decreases the chance of not purchasing the product or service at the end of the web search (Scupola 1999).

2.4.4 Resource Complementarity

Besides complementarities between product and service and between online purchasing services, e-businesses are able to create value through providing their resource complementarities. Resource complementarity represents 'an enhancement of resource value and arises when a resource produces greater returns in the presence of

another resource than by itself' (Zhu 2004, p. 177). Company resources can be integrated to enhance value, as argued by Milgrom et al. (1991). Resource complementarities can be viewed from either a firm's or a customer's perspective. From the former perspective, Zhu (2004) examines a firm's resource value in terms of complementary synergy between its front-end e-commerce capability and its back-end IT infrastructure on a firm's performance. E-commerce capability indicates the capability of firms in using the Internet for information, transaction and customer service while IT infrastructure is a firm's installed base of data-processing infrastructure in the back office (Zhu 2004). Zhu (2004) claims that complementarities between a firm's IT infrastructure and e-commerce capability improves a firm's performance in terms of sales per employee, inventory turnover and cost reduction. This may be because complementary interaction enhances the business value for both resources. A web-based network may enable a firm to improve its interaction with customers as well as datasharing with suppliers in the front end, while the IT infrastructure enhances data-processing capabilities in the back office (Zhu & Kraemer 2002). Consequently, by this means firms can perform more efficiently and with lower costs. Resource complementarity, therefore, may be used to create e-commerce value by producing embedded, mutually reinforcing and performance-enhancing resource bundles (Zhu & Kraemer 2002).

Besides using resources complementarity to create business value by integrating e-commerce capability and IT infrastructure, resource complementarity can also be viewed in relation to the integration of online offerings and offline assets. 'Clicks-and mortar' companies employ an integration of online offerings and offline assets strategy as a source of value creation in e-business (Steinfield et al. 1999; Amit & Zott 2001; Zhu 2004). The integration of online and offline assets (such as bricks-and-mortar

warehouses) can help companies to provide faster and more efficient delivery to meet the demand from Internet shoppers (Shin 2001). Customers who purchase products from the Internet value the possibility of getting support and service offered through traditional physical retail stores, including in-store pick-up and return (Steinfield et al. 1999; Burke 2002; Zhu & Kraemer 2002).

Since this study focuses on the customer perspective, it will explore the extent to which the integration of online and offline channels can be used to enhance customer value.

The strategic use of the Internet as a sales channel for business has been explored by several researchers (Griffith & Krampf 1998; Adam 2002; Nicholls & Watson 2005). This new sales channel creates opportunities for many traditional bricks-and-mortar stores, retailers in particular, to transfer their business to e-commerce channels. However, the integration of online and traditional channels may create a potential for channel conflicts (Friedman & Furey 1999; Ward 2001) if the 'alternative means of reaching customers implicitly or explicitly compete with or bypass existing channels' (Stern & Ansary 1992; Balasubramanian 1998, cited in Steinfield et al. 2002, p. 97). According to Steinfield et al. (1999), Crane (2001), Davis (2001) and Porter (2001), instead of cannibalising their traditional channels e-business operators are able to use their websites to offer an opportunity for new business to complement traditional stores. By integrating their websites into a coherent retailing strategy, traditional companies might be able to leverage their offline operations and create value by providing complementarities among strategic assets (Steinfield et al. 1999). Researchers on e-commerce consider the integration of physical and web-based channels to be a distinct business model and use terms like 'clicks-and-mortar', 'cyber-enhanced retailing', and 'hybrid strategies'

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(Timmer 1998; Otto & Chung 2000; Steinfield et al. 2002). Rather than viewing the Internet as simply an add-on, alternative channel, the challenge is to integrate the Web presence as a value-added component of products and services (Bertsch et al. 2002; Steinfield et al. 2002; Burke 2002).

E-business operators are able to employ clicks-and-mortar electronic commerce to gain a competitive advantage by lowering the costs of doing business (Steinfield et al. 2002; Zhu 2004) such as labour, inventory and delivery costs. This is because businesses pass these costs to customers by using the Web to offer products online.

Since online shoppers perceive risk as due either to a lack of physical contact, to performance failure of the shopping medium, to trustworthiness of the Internet retailer (not supplying the product purchased), or to the lack of human contact in Internet shopping (Liebermann & Stashevsky 2002), the physical presence of clicks-and-mortar firms can be used to reduce the perceived risk of online shopping (Steinfield et al. 1999). This may be because customers can access a store to get after-purchase support such as the ability to return goods or make complaints. This can enhance customer trust in online shopping (Steinfield et al. 2002).

Further, the integration of online and physical channels can help create value-added services offered to customers (Amit & Zott 2001; Steinfield et al. 1999, 2002). Clicks-and-mortar firms can differentiate themselves from competitors by using the synergy of the two channels to offer value-added services: for instance, firms can use online channels to offer product information and services to complement what the physical stores offer (Steinfield et al. 1999, 2002), as well as offering customers the opportunity to browse and order online, and to receive products in bricks-and-mortar

stores (Amit & Zott 2001; Steinfield et al. 1999, 2002). This view is supported by Simons et al. (2002) who suggest that synergies between electronic and physical channels can be obtained by restructuring two processes: sales and physical distribution. Restructuring of the sales process focuses on offering pre- and after-sales service support, and financing. The restructuring of physical distribution includes product returns and installation. Additionally, each channel can also be used to promote traffic in the other channels using marketing strategies such as advertising and coupons that offer incentives to customers (Steinfield et al. 1999, 2002). Offering new types of services can enhance customer value and helps differentiate a firm from others (Steinfield et al. 2002).

Davis (2001) argues that clicks-and-mortar can be used to improve the customer's experience across all channels through three strategies. First, firms should focus on providing a consistent brand and merchandising experience to the customer. This strategy is supported by Porter (2001), in terms of a company using a common brand across all sales channels to reflect the value of integrating strategic marketing activities. Second, customer relationship management (CRM) for both channels must integrate to provide customer service support in all sales channels. Finally, retailers' inventory systems have to be integrated to facilitate the customer's ability to locate products and stores available.

In light of this range of research, this thesis only focuses on the role of complementarity in creating value in B2C e-business from complementarities between products and services, between online buying services, and between online and offline service offerings. A study of these product and/or service complementarities will reveal what complementarity products and/or services that customer value and e-businesses should take into account when offering products and/or services in the Internet

environment. In the next section the conceptual framework and proposed hypotheses will be discussed.

2.5 Conceptual Framework

The conceptual framework and its proposed hypotheses have been developed to answer the research questions (Chapter 1.2). In this framework, four sets of independent variables are associated, jointly and individually, with customers' perceived value: (1) product and service complementarities—product components; (2) product and service complementarities—product range; (3) online buying service complementarities; and (4) offline service complementarities. The hypotheses derived examine the relationship among these complementarities and customers' perceived value, individually and jointly, as well as the relationship between customers' perceived value and behavioural intentions. The following section outlines the hypotheses and their theoretical support.

2.5.1 Customers' Perceived Value

Value is understood as a trade-off between benefits and costs (see for example Zeithaml 1988; Monroe 1990; Walter & Lancaster 1999). Zeithaml (1988, p. 14) indicates that 'perceived value is the customer's overall assessment of the utility of a product based on perceptions of what is received and what is given'. The author compares the 'give' and 'get' from products and services in assessing value. In addition, Walter and Lancaster (1999, p. 643) have stated that value is measured by 'the utility combination of benefits delivered to the customer less the total costs of acquiring the delivered benefits'. Typically, benefits have been operationalised as quality, whereas costs have typically been operationalised as price. The use of the quality and price trade-off in value evaluation basically constitutes value for money. On this account, consumers

determine the value of a product or service on the basis of some combination of quality and price (Dodds et al. 1991).

The value dimension has been explored by Sweeney and Soutar (2001), who have developed a perceived value scale (called PERVAL) based on four dimensions: emotional, social, quality/performance, and price/value for money. The PERVAL was used to assess customers' perceptions of the value of a consumer durable good at a brand level in retail purchasing situations to determine what consumption values drive purchasing attitudes and behaviour. The reliability and validity of the 24-item scale, from stage one, was assessed in a pre-purchase stage, stage two, using exploratory and confirmation analyses. A telephone survey of adults aged 18 and over was conducted in the Perth Metropolitan area in Western Australia. Their findings from 303 interviews using stepwise regression suggested that all four value dimensions can be used to help explain purchase attitudes and behaviour. However, the perceived quality and emotional value were more important in explaining perceptions. The authors concluded that by using stepwise regression in which each dimension is entered into the equation separately and significantly, each value dimension plays an important and separate role in forming attitudes and behaviours in the purchase process. The 19-item scale refined from stage two was further tested in a post-purchase situation. A survey of 323 (44%) furniture store customers and 313 (31%) car stereo centre customers who spent $400 or more participated in this study. Results found that the 19-item measure of the four-factor model, PERVAL, was both reliable and valid.

Value-for-money, however, is considered to be too simplistic for some authors (Schechter 1984; Bolton & Drew 1991). Woodruff (1997, p. 142) defines value from the

customer's point of view as 'customer's perceived preference for, and evaluation of, that product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goal and purposes in use situations'. Woodruff (1997) focuses on customer value in terms of which products and services help customers to achieve their goals and purposes. The author highlights that customers learn to think about products as bundles of specific attributes and attribute performances and form preferences based on their ability to facilitate achieving desired consequences that help them achieve their goals and purposes.

Further, Treacy and Wiersema (1993) argue that the customer of tomorrow will employ an expanded concept of value that encompasses convenience of purchase, after-sales service, uniqueness and reliability. Similarly, Porter (1990) suggests other dimensions of benefits, including special features and after-sale service, beyond the provision of a superior product quality to the buyer.

Moreover, *non-monetary* sacrifices such as time and psychological costs, search costs and effort expended in acquiring products are considered as perceived costs in the determination of value (Berry & Yadav 1996; Woodall 2003; Keeney 1999). In obtaining and processing information related to price and product characteristics, buyers face search costs which include the time spent searching, as well as associated expenditures such as driving, telephone calls and computer fees (Bakos, 1998).

In e-business customer value is defined as the benefits the customer derives from transactions made through Internet purchases in terms of reducing costs (Han & Han, 2001). Electronic marketplaces supposedly lower the buyer's cost in obtaining information about the price and product features of seller's offerings. For instance, a

buyer in the market can easily compare the prices of different sellers from searching specific websites. By lowering buyers' search costs, electronic markets increase economic efficiency. Not only do buyers incur lower costs even after considering more product offerings, they also benefit from being able to identify and purchase products that better match their needs (Bakos 1998).

This study considers customer value in both monetary and non-monetary measures, in terms of trade-offs between the benefits gained from product and service complementarities offered by B2C e-business and the costs incurred acquiring the products.

Perceived value of product and service complementarities in B2C e-business is based on the following attributes: product components, product range, online buying services, and offline services complementarities. Each complementarity and its associated value will be discussed in turn.

2.5.2 Product Complementarity: Product Components

Product components or features in bundle offerings are an important issue when determining the product mix (Bakos 1998). Firms must decide which product components or features will be included in the offering. Complementary products and services can be directly or indirectly related to a firm's core product or service. For example, airline companies offer some forms of travel packages or bundles that include flights, hotel accommodation, and/or car hire, which the customer can tailor to meet his or her individual needs or wants (Bakos 1998; Amit & Zott 2001; McIvor et al. 2003). Additionally, airlines offer non-complementary products and services via their Internet presence such as a series of financial services, both related and unrelated to the core

offering (such as travel insurance, home insurance) using business-to-business relationship networks and integrated value chains. Most airline companies also offer up-to-date information on currencies, weather or destination guides in order to reduce search costs and build trust with their customers (McIvor et al. 2003).

The selection of components of products and services in bundles is important to the success of the overall bundle (Guiltinan 1987). Guiltinan (1987) suggests that a key to effective bundling is the degree of complementarity among services or products in that bundle. This is because when products or services in the bundle are related, the effect of transfer of consumer surplus from one product or service to the other is enhanced. This, in turn, enhances the overall image of the bundle and all products are valued more highly (Guiltinan 1987). Therefore, the total value of having a complementary bundle is greater than the sum of having each product in the bundle separately. For example, the ability to access weather information, currency exchange rate information, and appointments with immunisation clinics enhances the value of the airline tickets and vacation package on offer (Amit & Zott 2001). The offering of hotel accommodation and car hire automatically when purchasing airline tickets enhances the total value of the travel package and improves decision-making for travellers through the convenience of finding the products and services required for their travel needs.

Harlam et al. (1995) argue that customers prefer closely related bundle components to either moderately or unrelated components. They conducted experiments using various product types, including complementary and unrelated products at equal and unequal prices. Both durable and nondurable goods, including a Sony VCR, Neutrogena Shampoo, Panasonic TV, Seiko watch, and Fuji tapes, were used to test their arguments via a computer-simulated shopping experiment. ANOVA results from 83

MBA students revealed that bundles composed of complementary products promote a higher purchase intention than bundles of unrelated products.

Similar results were found by Herrmann et al. (1997). They explored the intention to purchase a bundle, and the influence of functional complementarities between product components, number of components, price discounts, and types of bundle. Product and service choices in the car industry were used in their study. Two full factorial experiments were conducted on car (product choice) and car maintenance service (service choice) packages in Germany in 1994. A car was used as the core product and the safety package—including a centralised security system, an alarm system and a passenger-side airbag—was designated as a functionally related attribute. A centralised security system, a sunroof and aluminium wheel rims were designated as unrelated attributes. For service choices, a maintenance service package—including oil change, brake and brake fluid test, and battery test—was designated as comprising the functionally related attributes, while a change of tyres and rotation of tyres were designated as unrelated attributes. A total of 540 car owners who were in the market to buy a new car were recruited from the panel to participate in the study.

Their findings indicated that customers preferred a related bundle of components to either moderately related or entirely unrelated components. Consequently, related bundle components generate greater purchase intentions. Therefore, it was concluded that related complementary products play an important role in bundle component selection (Herrmann et al. 1997). This is because consumers consider economies of time and effort when purchasing from a company that provides or offers complementary products, either as part of their own product offering, or that of a partner (Oxenfeldt 1966; Guiltinan 1987; Zott et al. 2000).

Consumers may only have to click on a hyperlink to be taken to the complementor's website. For example, the German travel booking company, i:FAO, uses its booking software to offer services such as travel information and transportation bookings (Zott et al. 2000). Moreover, there are links from their home page to complementary products and/or services, such as travel information, weather reports, travel bookshops, and a currency converter (Zott et al. 2000). Travellers will appreciate the convenience of a one-stop-travel-shop offered by this travel company when they purchase their airline ticket. The convenience and simplicity of a single transaction adds value. Thus, it is hypothesised that:

H1: The more closely related complementary products and services in a bundle are, the greater is their perceived value.

2.5.3 Product Complementarity: Product Range

In addition to product components, the number or the size of the product and service offering is also important in constructing bundles (Ansari et al. 1996). Herrmann et al. (1997) argue that more components in a bundle yield a better result in purchase intentions. This is because customers process and value information about a set of attributes, until the number of attributes exceeds processing capacity. Herrmann et al.'s (1997) study, as described in the previous section, suggests that five component bundles generate greater purchase intention than either three or seven component bundles. This study, however, is based on the offline traditional store. In the Internet environment, this issue may not be the same.

Compared to traditional stores, many Internet companies exploit the Internet to offer more or at least the full range of products to cover all of a consumer's needs, and also offer the opportunity to make requests for products and services not currently offered

or that are hard to find via traditional channels (Alba et al. 1997; Kalakota & Whiston 1997; Margherio et al. 1998; Zott et al. 2000). This includes supplementary services such as product information. For example, *Amazon.com*, an American online bookstore, that started out selling books online, now includes groceries, electronics, software, toys, kitchen and home products, movies, music, games, and more (Gale 2003). Similarly, *buecher.de*, an online German book retailer, offer a range of products including books, music, CD-ROMs, electronic cards, and Books-on-Demand for individuals (Zott et al. 2000). Coughlan et al. (2001) suggest that for online retailers, increased product choice is one of the critical service outputs delivered to customers.

Product variety, product availability, and product information are the factors that motivate customers to shop online (Wyner 2001; *Allbusiness.com* 2005). Ghosh (1998) calls this product offering 'product magnets'. Wyner (2001) has reported that by a ratio of two to one online users believe that they get a better selection of items tailored to them when they shop online. Furthermore, increased product selection in the online shopping environment enhances customer satisfaction in comparison to in-store shopping (Burke 2002). Burke (2002) examined how people want to shop in both online and in-store environments by conducting a national survey of 2,120 online consumer panels who shopped or purchased products in the past six months in one of the 10 broad categories of products, including major and small appliances, furniture, games, music, movies, and books. Online shopping results, regarding products and services available, indicated that customers like access to product specifications, usage instructions, warranty information, and a list of products currently on sale.

Moreover, research has found that choice of products offered by B2C e-business also influences customer loyalty, as revealed by Srinivasan et al. (2002). Results from an online survey of 1,211 online shoppers using regression analysis regarding choice revealed a positive relationship between choice and e-loyalty, that is the greater the level of choice, the greater the e-loyalty of its customers.

A broad and/or specialised assortment of products and/or services can be used to add value for potential customers in contrast to traditional channels (Anckar et al. 2002). By offering a wide range of products, services and/or information customers perceive the convenience of lower search costs, and reduced search effort in acquiring products and/or services (Guiltinan 1987; Eakin & Faruqui 2000; McIvor et al. 2003). For example, customers who buy an airline ticket via the Internet appreciate the convenience of having access to more complete information about real-time flights (for example, schedules and flight status) and related complementary products and services (for example, hotel accommodation and car hire), as well as other unrelated complementary services that are available from the same airline company. Customers also can compare prices of individual flights and evaluate the components of alternative offerings relatively easily. Consequently this convenience helps reduce customers' search and transaction costs. Thus, it is hypothesised that:

> H2: The wider the bundle range of complementary products and services, the greater is their perceived value.

2.5.4 Online Buying Service Complementarity

When shopping online, customers want to have several features provided by online retailers to facilitate their shopping process on that website (Burke 2002). The Internet facilitates customers' choice by offering easier and cheaper ways to collect data

and make a purchase using a 'one-click' ordering tool (Ancarani 2002). For example, *Amazon.com* provides its customers with the ease of shopping online through devices like the 'one-click' payment feature and by providing additional information to consumers through categorisation and search capabilities. Information about recommendations on related books and music also increases value (Filson 2004).

Levenburg (2005) suggests that retailers can use the Internet to add value to products and services offered by providing more online services, particularly those that may be used by customers in the acquisition process: examples include email and online ordering, and post-purchase support. The author investigated how small and medium enterprises (SMEs) utilise the Internet for their companies. Results from 407 SMEs in West Michigan using a mail questionnaire revealed several purposes for e-business, including: enhanced company image; targeting small or hard-to-reach markets; emailing customers; online ordering and order tracking; online product delivery; and online product demonstrations. These were some of the common methods for trading via the Internet.

This was supported by Burke's (2002) findings. As described in Section 2.5.3, Burke (2002) investigated how people want to shop in both online and in-store environments. The author found that, for online shopping, customers want to have the ability to pay online, receive an email message confirming their purchase order and shipment, track the shipment using the Internet, and communicate with a customer service support team via email, if required.

The ability to purchase online provides transaction convenience to customers in comparison to purchasing from physical stores (Seider et al. 2000). Customers are able to

order online, anywhere, 24 hours a day, 7 days a week (Adelaar et al. 2004; Bakos 1998; Sweeney et al. 2006). Moreover, customers may exploit the advantages of unrestricted trading hours, no queues, the availability of more alternatives, and faster transactions (Kalakota & Robinson 1999; Barua et al. 2001; Fellenstein & Wood 1999). Online buying services help create value to customers by increasing shopping convenience through the speed and flexibility of online decision-making and reduced searching and other significant transaction costs (McIvor et al. 2003; Burke 2002). Therefore, it is hypothesised that:

H3: The greater the number of online buying services complementary there are, the greater is their perceived value.

2.5.5 Offline Service Complementarity

A combined web store and physical store, otherwise known as clicks-and-mortar, can be used to market and complement each other in different ways. For example, a website can be used as a cross-promotional tool to encourage customers to visit their physical retail stores by using the website to advertise in-store promotions while the physical store can advertise its website in the stores (Kruger 1999). Alternatively, the website could provide coupons for in-store purchases as well as highlight news of store events. A company might use email for direct marketing, not only to advertise their website, but also to provide information about in-store products and services (Steinfield et al. 1999).

Online and offline complementarities also play a new role in the publishing industry in which online and offline versions of newspapers and magazines are sometimes bundled together. Traditional newspaper or magazine subscribers are able to access an online edition and other services on the website as a bundled price offering

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(Ancarani 2002). For example, one of the premium features of the *New York Times* website is the Windows Reader. It is free for subscribers to home delivery of the paper; otherwise it is $14.95 per month (Atwood 2007).

Additionally, clicks-and-mortar can create value for customers in any phase of the purchasing process from pre-purchase, purchase, to post-purchase (Steinfield et al. 1999, 2002; Otto & Chung 2000; Amit & Zott 2001; Zhu 2004). Firstly, in the pre-purchase or information phase, value can be created by offering customers the opportunity to inspect products in the physical store and then order them electronically. Alternatively, firms can use their website to assist customers in searching for a product that best meets their needs before visiting a store and ordering products over the Internet.

Secondly, in the purchase phase, firms can use online services to support offline purchases; for instance, when online ordering is offered in addition to traditional in-store sales. Peapod Inc., for example, has integrated the Internet for placement of orders and uses local stores to deliver order grocery items to customers. In this way, the customer may get their products almost immediately and local stores can extend their boundaries to customers who may not be willing to travel to the store to physically purchase their products (Mathews 1997). Customers, therefore, benefit from the added convenience and flexibility of ordering online, and by receiving products from the bricks-and-mortar stores.

Thirdly, in the post-purchase phase, firms can exploit online and offline synergies after initial sales are made to offer a range of after-sales services. This applies to firms that sell physical products requiring maintenance, installation or repair. Car dealers, for example, can use their website as well as email to remind their customers of maintenance

servicing and to arrange for their visit to dealers. Consumers may also be able to exchange or return products at a traditional store after making their purchase online (Simons et al. 2002; Steinfield et al. 2002).

With these online and offline complementarities, some consumers are enthusiastic about their shopping choices. Burke's (2002) results indicate that a majority of consumers prefer to shop in both the online and in-store environments. Eighty-two per cent of consumers use more than one channel to learn about new products, 77% search for product information, 74% compare and evaluate alternatives and 63% purchase and pay for products online. In addition, more than half (59%) of surveyed participants preferred to have the option of receiving products in an offline environment either via the mail or a store visit, and 39% want to be able to return products through both channels.

Providing complementarities between online and offline channels makes shopping simple and convenient, enhancing trust and offering more value-added services (Gulati & Garino 2000; Steinfield et al. 2002). Thus, it is hypothesised that:

H4: The greater the number of offline services complementary there are, the greater is their perceived value.

2.5.6 Interaction Effects

The preceding conceptualisation suggests several direct relationships between product components, product range, online service, and offline service complementarities and customers' perception value of these offerings (H1-H4). However, as described in Sections 2.4 and 2.5, there are numerous offers among these four complementary products and/or services that might possibly be offered together by B2C e-businesses. As suggested by Amit and Zott (2001) and McIvor et al. (2003), e-business can create value

for the customer by offering a range of more or less related complementary products and services. Furthermore, the process of finding, ordering and receiving the product can be offered together with the product offerings to add value for the customer (Keeney 1999). Additionally, a physical store or outlet can be used to support an online store to add value for customers (Amit & Zott 2001; Steinfield et al. 1999, 2002). Therefore, this study will evaluate the combination effects of these four main factors, which include two-factor, three-factor and four-factor interaction effects. As a result, the following hypotheses (H5–H15) have been developed.

Two-Factor Interaction
Interaction Effects of Product Component and Product Range
H5: That the product component effect on customers' perceived value will be stronger when a wide range of complementary products and services are bundled rather than a narrow range of complementary products and services.

Interaction Effects of Product Component and Online Buying Service
H6: That the product component effect on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.

Interaction Effects of Product Component and Offline Service
H7: That the product component effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

Interaction Effects of Product Range and Online Buying Service
H8: That the product range effect on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.

Interaction Effects of Product Range and Offline Service
H9: That the product range effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

Interaction Effects of Online Service and Offline Service

H10: That the online services effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

Three-Factor Interaction

Interaction Effects of Product Component, Product Range, and Online Service

H11: That the effect of the product component and product range on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.

Interaction Effects of Product Component, Product Range, and Offline Service

H12: That the effect of the product component and product range on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

Interaction Effects of Product Component, Online Service, and Offline Service

H13: That the effect of the product component and online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary service.

Interaction Effects of Product Range, Online Service, and Offline Service

H14: That the effect of the product range and online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

Four-Factor Interaction Effects

Interaction Effects of Product Component, Product Range, Online Service, and Offline Service

H15: That the effect of the product component, product range, and online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary service.

2.5.7 Relationships between Customers' Perceived Value and Behavioural Intentions

One of the significant marketing behavioural outcomes of perceived value is its contribution to purchase intentions. Prior research has suggested that the perception of value plays an important role in predicting the purchase behaviour of consumers (Chen & Dubinsky 2003; Dodds et al. 1991; Zeithaml 1988). Dodds et al. (1991) studied the effects of price, brand, and store information on buyers' product evaluations including perceived quality, value (for money), and willingness to buy. Two separate experiments were conducted on two products: calculators and stereo headset players. A factorial design was employed and 585 undergraduate students at a large state university in the USA participated in the study. The results from the regression analysis found a positive relationship between buyers' perceptions of value and their willingness to buy. Buyers' willingness to buy will increase as perceptions of value increase.

The relationship between perceived value and purchase intention was further explored in the online environment by Chen and Dubinsky (2003). The authors examined the relationships among four key variables of perceived customer value in a business-to-consumer e-commerce setting, including: (1) valence of online shopping experience, (2) perceived product quality, (3) perceived risk, and (4) product price, and their relationship to online shoppers' value perceptions. An in-class survey was conducted with 99 undergraduate students who had an online purchasing experience at a large state university in the US. Multiple regression analysis results revealed that there was a highly significant positive relationship between customers' perceived value and online purchase intentions, evidence of the important role of perceived customer value in determining a consumer's purchase intention in an online setting. These findings confirm the positive relationship between perceived value and purchase intention.

Besides purchase intentions, perceived value is a determinant of other customer behavioural outcomes. The studies of Zeithaml et al. (1996) and Kim (2004) support the positive relationship between perceived service quality, value, and behavioural intentions. Zeithaml et al. (1996) suggest five favourable behavioural intentions as a consequence of positively perceived service quality including the customer's willingness to: (1) say positive things about the service provider, (2) recommend the service provider to other customers, (3) remain loyal to the service provider, (4) spend more money with the service provider, and (5) pay a price premium. Similarly, Kim (2004) conceptualises behavioural intentions to shop via the Internet as the likelihood to: (1) visit the site again, (2) search for product information from the site, (3) purchase products available from the site, (4) say positive things about the service provider, and (5) recommend the site to other people.

Further, Baker et al. (2002) have examined the influence of multiple store environment cues on perceived merchandise value and store patronage intentions, including the willingness to recommend, willingness to buy, and shopping likelihood. In their experimental design, the authors produced eight videotaped scenarios representing low and high levels of three store environment variables: design, social, and ambient using a 2 x 2 x 2 between-subjects research design. A card-and-gift store was used to simulate a store environment experience. Results from the two studies involving 297 and 169 undergraduate students at a large, south-western US university, using maximum-likelihood simultaneous estimation procedures, provided positive support for the relationship between perceived merchandise value and store patronage intentions.

Besides the relationship between perceived service quality and behavioural intentions, Parasuraman et al. (2005) proposed nomological net-E-S-QUAL, perceived

value, and loyalty intentions. The authors outline five loyalty intentions as consequences of perceived electronic service quality and perceived value. These five loyalty intentions, similar to the behavioural intentions used in Zeithaml et al. (1996) and Kim (2004), include the likelihood to: (1) say positive things about the site, (2) recommend the site to other people, (3) encourage other people to do business with the site, (4) consider the site as a first choice, and (5) do more business with the site. The authors conceptualised, constructed, refined, and tested a multiple-item scale (E-S-QUAL) for measuring websites service quality. Results from the two-stage data collection using SEM analysis provide strong support for the proposed nomological net-E-S-QUAL, perceived value, and loyalty intentions.

This study examines the relationship between customer value and behavioural intentions in a broader perspective similar to previous studies, including likelihood to search, visit, recommend, say positive things about, and purchase products available from the site to obtain insight into customer behaviours in Internet shopping. Therefore, it is hypothesised that:

H16: Customers' perceived value of products and services complementarities is positively related to customers' behavioural intentions.

The proposed hypothetical links guiding this study are shown in Figure 2.1.
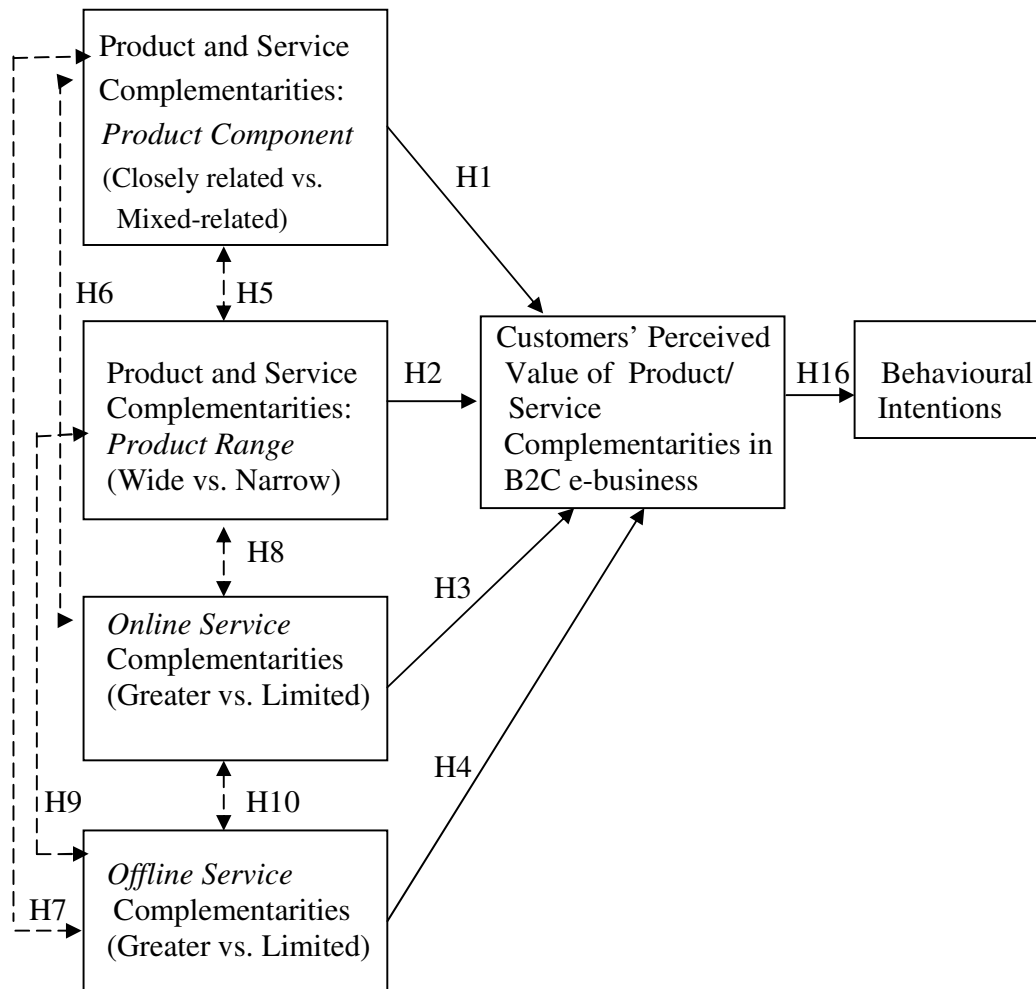
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Note: ——————▶ Main Effect - - - - - -▶ Two-Way Interaction Effect
Three-way and four-way interactions (H11-H15) are not presented here.

Figure 2.1 Conceptual Model of Customers' Perceived Value of Product and/or
Service Complementarities in B2C e-Business

2.6 Summary

This chapter reviewed the literature related to value creation in e-business. According to Turban et al. (2008, p. 4), e-business is defined broadly as 'not just the buying and selling of goods and services but also servicing customers, collaborating with business partners, conducting e-learning, and conducting electronic transactions *within* an

organization'. In B2C e-business, buyers are individual consumers (Turban et al. 2008). This study focuses on B2C e-business since it involves offering complementary products and services to individual consumers.

From the literature, value in e-business can be viewed from a company or a customer point of view. From the company point of view, e-business value can be created through the *virtual value chain* (Rayport & Sviokla 1995; Yakhlef 1998; Lawton & Michaels 2001; Porter 2001). The Internet enables companies to create a virtual value chain of a series of traditional value-adding activities connecting a company's supply side (raw materials, inbound logistics and production processes) with its demand side (outbound logistics, marketing and sales) by integrating information through five value-adding activities: gathering, organising, selecting, synthesising, and distributing information (Rayport & Sviokla 1995). Also, in the Internet environment, value can be created through three value-adding strategies: *content, context,* and *infrastructure* (Han and Han 2001; Rayport & Sviokla 1994; Yakhlef 1998). From a marketing perspective, value in e-commerce can be created from the three unique characteristics of virtual markets: *reach, richness,* and *digital representation* (Zott et al. 2000). These three virtual markets characteristics enhance a firm's communications capability with all parties, business partners and customers. Several researchers have suggested that the Internet can be used for *online sales*, *communication*, and *customer service* (Adam 2002; Griffith and Krampf 1998; Nicholls & Watson 2005; Soh et al. 1997).

From the customer point of view, factors that influence customer value in Internet commerce can be grouped into the following: (1) product selection/choice, (2) shopping convenience, (3) ease of ordering, (4) product information, (5) product prices, (6)

customer service, and (7) personalisation (Anckar et al. 2002; Burke 2002; Jarvenpaa & Todd 1996-97; Margherio et al. 1998; Torkzadeh & Dhillon 2002).

Finally, complementarity theory was reviewed. As suggested by Amitt and Zott (2001) value can be created through four value drivers: *efficiency, complementarities, lock-in,* and *novelty*. This study focuses on value creation in e-business through offering complementary products and services to customers. This includes complementarities between products and services, online purchasing services, and offline service facilities. Complementarities are present 'whenever having a bundle of goods together provides more value than the total value of having each of the goods separately' (Amit & Zott 2001, p. 504).

In addition to product offerings, value can be created through the process of finding, ordering and receiving the products (Keeney 1999). This refers to complementarities between online buying services explored in this study, and to complementary services offered to customers when acquiring products and services online at each step of the purchasing process, from pre-purchase to post-purchase.

Finally, value can be created through providing offline complementary services to support the online services. These offline complementary services include physical retail stores and/or call centres. Offline channels can be used to complement online channels from the pre- to post-purchase stages, for example, ordering products via the Internet and picking up the product in a store.

The Internet, therefore, opens the opportunities for firms to create value for customers through offering these complementary products and services. The value of

complementary products and services on offer consequently influences customers' behavioural intentions toward the company. Based on the literature, 16 hypotheses were developed. In the next chapter, the methodology used in this study to test these hypotheses is described in detail.

Chapter 3

METHODOLOGY

3.1 Introduction

This chapter provides a description of the research methods used in this study. However, before presenting the research methods, the research questions proposed in Chapter 1 are presented here again for the purpose of review:

Main Research Question:

What is the value of complementary products and services in e-business?

Sub Research Questions:

1. What complementary products/services offered by e-business affect customers' perceived value? And how?

2. Do interaction effects between these product/service complementarities affect how customers perceive value? And how?

3. To what degree does the value customers place on these online products and services relate to their future behaviour?

The research methods used in this study consist of two phases. Experimental design was employed in the first phase of this study. This chapter presents the description of this experimental design, the development of the experimental stimulus, questionnaire development, the data-collection procedure and data analysis.

The second phase of this study involved conducting personal interviews to gain insight into the decisions made and behaviours of customers when shopping online. This

chapter also includes descriptions of the participants, instruments, interview procedures, and qualitative data analysis.

3.2 Phase I — Experimental Research

Experimental research is often referred to as causal research because it allows the researcher to manipulate one or more independent or treatment variables and to observe or measure the effect of this manipulation on the dependent variable(s) (Aaker et al. 2001; Churchill & Iacobucci 2005; McDaniel & Gates 2007). In an experiment, treatment conditions are chosen to test particular features of interest to the research project. The researcher is then able to assign participants to these treatment conditions so that the differences in behaviour between groups can be assessed, and infer from those differences what has been the cause within the experiment treatment (Keppel 1991).

Experimental design is widely used in business and the social sciences (Hair 2006). Marketing is one of the areas that has widely used such experiments to develop the marketing strategies of companies (Churchill & Iacobucci 2005), including: market testing for new products (Green et al. 1997); effects of advertising campaigns on sales (Lodish et al. 1995); impact of price, promotion and display on the sales (Wilkinson et al. 1982); and direct mail sales (Bell et al. 2006). Further, the experimental design method has been expanded into the behavioural sciences both in terms of investigating the traditional retail store and the Internet store; for example, product and service bundling decisions and purchase intentions (Hermann et al. 1997); effects of product cues on quality, value, and purchase intentions (Dodd et al. 1991); and online retail setting and consumer satisfaction (Ballantine 2005).

Since the purpose of this study is to examine what factors of complementary products and/or services offered by e-business affect value perception among participants under given treatment conditions, the experimental research approach, was therefore employed. The experiment allows the researcher to test the differences among product and/or service complementarities as well as their interactions in terms of the effects on customers' perceived value.

3.2.1 Design of Experiment

There can be a range of designs adopted in the experimental phase depending upon the discipline and the nature of the study. Since this study involves the behavioural sciences, the design of the experiment will follow that of Keppel (1991). Keppel (1991) introduced three basic experimental designs for use in the behavioural sciences including completely randomised design, within-subjects design, and factorial designs. The details of each design are described below.

Completely Randomised Design (Between-Subjects Design)

According to Keppel (1991), the completely randomised design is one where an equal number of subjects are assigned randomly to each of the different treatment conditions (cells). With this design, any differences in behaviour observed between any one treatment condition and the others are based on the differences between the independent groups of subjects. Additionally, the random assignment of subjects to different conditions is an attempt to control for unknown or unmeasured variables. The randomisation helps ensure that there will be an equivalence of subjects across the different treatments. Thus, subjects assigned to one group do not differ from those assigned to other groups in any intrinsic way.

The advantages of completely randomised designs are that it is easier to design and to analyse, and is relatively free from restrictive statistical assumptions (which are discussed in Section 3.2.5). However, the main disadvantages include the large number of subjects required and a relative lack of sensitivity in detecting the effects of the treatment conditions presented in the experiment (Keppel 1991).

Within-Subjects Design

In the within-subjects design, each subject is assigned all the treatment conditions, rather than only one. This is also known as a repeated-measures design. The differences in behaviour observed among the treatment conditions are represented by differences within the single group of the same set of subjects participating in the experiment (Keppel 1991).

The within-subjects design is widely used in the behavioural sciences because it requires fewer subjects and is more sensitive than a completely randomised or between-subjects design. However, this design has relatively restrictive statistical assumptions and the subjects in the experiment can change while they are receiving the different treatment conditions (Keppel 1991).

Factorial Designs

Factorial designs allow the researcher to manipulate two or more factors simultaneously in the same experiment (Hair 2006; Keppel 1991). Factorial designs are widely used in an experiment involving several factors and where their joint effects are of concern to the researcher (Montgomery 2001). The designs for the treatment conditions in the experiment are combinations of levels of the factors. Factorial designs are widely employed in behavioural research and in numerous fields because they are more efficient

than one-factor-at-a-time experiments (Easton & McColl 1997; Holland & Cravens 1973). Besides this, the main effects of independent variables can be observed separately. Factorial designs allow the researcher to determine the interaction or combined effects of the independent variables on the dependent variable (Aaker et al. 2001; Keppel 1991). Factorial designs, therefore, provide rich information on interactions among variables that it is not possible to obtain when there is only one factor at a time (Holland & Cravens 1973; Keppel 1991).

Factorial designs can be designed in the form of either a full or fractional factorial design. In full factorial design, the model includes all main effects and all interactions among the factors (Garson 2007). The factorial design can then be depicted as a numbering notation. For example, when using factorial design terminology, 2 x 2 ("two-by-two") factorial design means there are two factors with the first having two levels and the second having two, making a total of four groups. If there are k factors, each at 2 levels, a full factorial design has 2^k runs as shown in Table 3.1.

Table 3.1 Number of Runs for a 2^k Full Factorial

Number of Factors	Number of Runs
2	4
3	8
4	16
5	32
6	64
7	128

Source: *Itl.nist.gov* 2006*, http://www.itl.nist.gov/div898/handbook/pri/section3/pri333.htm.*

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A full factorial design is recommended for experimental designs that contain between two and four factors and its purpose is to identify which factors or effects are important (*Itl.nist.gov* 2006). The terms full factorial design and factorial design are used interchangeably in this study. When the number of factors equals five or more a factorial design is not efficient because it requires a large number of runs. In this case, therefore, a fractional factorial design is recommended (*Itl.nist.gov* 2006) to reduce the number of comparisons. However, in fractional factorial design, all main effects and interaction effects cannot be separately estimated (Holland & Cravens 1973). In other words, confounding patterns are presented. The estimated effects are not pure but instead are mixed with higher degree interaction effects that are assumed to be negligible (Holland & Cravens 1973).

The research design employed in this study is discussed in the next section in greater detail. The presentation of the experimental research in this study follows the steps as shown in Figure 3.1 below.

Research Design (3.2.2)

↓

Stimulus Development (3.2.3)

↓

Manipulation Checks (3.2.4)

↓

Research Process (3.2.6)

↓

A. EXPERIMENT ONE

↓

Presentation of Stimulus Set: Paper-Based (A.3)

↓

Questionnaire Design (A.4)

↓

Pretest (A.5)

↓

Main Study (A.6)

↓

Data Analysis: Experiment One (A.7)

↓

Methodology Problems (A.8)

↓

B. EXPERIMENT TWO

↓

Presentation of Stimulus Set: Interactive Website-Based (B.1)

↓

Questionnaire Design: Revise (B.2)

↓

Pretest (B.5)

↓

Main Study (B.6)

Note. The numbers in the brackets refers to the section number presented in this study.

Figure 3.1 Steps in Experimental Research: Phase I

3.2.2 Research Design

In this study, the research was designed using a combination of between-subjects and full factorial design, called between-subjects factorial design. A between-subjects factorial design was employed for this study for three reasons. First, the purpose of this study is to investigate the effects of four complementary products and services in a B2C e-business environment individually, and to measure the interactions that influence customers' perceived value. The between-subjects factorial design allows the researcher to examine simultaneously the main and interaction effects proposed in the study. Second, in this study there are the four main factors (independent variables) with two levels for each factor, thus a 2 x 2 x 2 x 2 factorial design, creating 16 runs in total in the experiment, which is not a large number of runs. Therefore, full factorial design is considered to be appropriate. Finally, obtaining the data for each condition in this study required a large amount of time. In this case, Maxwell and Delaney (2004) suggest that a between-subjects design may actually be preferable to a within-subjects design. Additionally, with the between-subjects design, the differences in the treatment conditions between subjects can be observed by randomly assigning each subject to only one of the different treatment conditions. Further, the random assignment helps protect the estimates from the possible influence of uncontrolled variables in an experiment (Keppel 1991).

Independent Variables

Based on the literature review (Chapter 2), this study explores the effect of the four main factors (independent variables) of complementary products and services offered by B2C e-businesses on customers' perceived value. The experiment used was designed such that each factor was manipulated at two levels as follows:

(1) *Component* of product and service complementarities (closely related vs. mixed- related). The two levels of *Component* are represented by two different categories of products and services offered to the customers in addition to the core product. The two types of product and service components are closely related and mixed-related. While closely related product components include complementary products and/or services that are used in close connected with the core product, mixed-related product components include both related and less-related product components.

(2) *Range* of product and service complementarities (wide vs. narrow). The two levels of *Range* are represented by a wide and a narrow range of products and services offered to customers. The *Range* of products and services offering is derived from products and services in the network collaborations with firms' partner. The number of wide and narrow product ranges offered online is based on the maximum and minimum mode of number of products and services offered by the e-business. In this study, a wide range is represented by 13 products and a narrow range is represented by six products, based on products and services offered by online travel agencies.

(3) *Online* buying service complementarities (greater vs. limited). The two levels of *Online* service are represented by a greater number of and limited online service complementary facilities provided by e-business operators. These *Online* services are derived from online purchasing processes including pre-purchase, acquisition, and post-purchase phases. The greater number of *Online* service include the services that allows customers to conduct their purchasing online from pre-purchase to post-purchase by themselves which include: search for and select the product/service, make a payment, track a transaction and email. The limited *Online* service include only a few facilities such as search for and select the product/service and 'email the enquiry' to the company,

or make a purchase offline, such as through a catalogue. There are no other facilities such as online payment or the ability to trace a transaction online.

(4) *Offline* **service complementary facilities** (greater vs. limited). The two levels of *Offline* service are represented by a greater number of and limited offline service complementary facilities provided to support customers. For the greater level, there are both physical travel agency retail stores or branches and a call centre to support the customer offline. For limited *Offline* service, there is only a call centre available to support the customer offline and no physical travel agency retail store or branch available to assist the customer offline.

Therefore, the design of this study was a 2 (*Component*) x 2 (*Range*) x 2 (*Online*) x 2 (*Offline*) between-subjects factorial design as shown in Table 3.2. Sixteen different experimental conditions were developed from these four main factors and their corresponding levels. These experimental conditions were used to access subjects' perceived value of products and services offered by e-business as well as their behavioural outcomes, to form the basis of the experimental design.

Table 3.2 Research Design

Profile Number	*Online*	*Component*	*Range*	*Offline*
1	Limited	Closely related	Wide	Greater
2	Limited	Closely related	Wide	Limited
3	Limited	Closely related	Narrow	Greater
4	Limited	Closely related	Narrow	Limited
5	Limited	Mixed-related	Wide	Greater
6	Limited	Mixed-related	Wide	Limited
7	Limited	Mixed-related	Narrow	Greater
8	Limited	Mixed-related	Narrow	Limited
9	Greater	Closely related	Wide	Greater
10	Greater	Closely related	Wide	Limited
11	Greater	Closely related	Narrow	Greater
12	Greater	Closely related	Narrow	Limited
13	Greater	Mixed-related	Wide	Greater
14	Greater	Mixed-related	Wide	Limited
15	Greater	Mixed-related	Narrow	Greater
16	Greater	Mixed-related	Narrow	Limited

Dependent Variables

The following section describes the construct measurements of dependent variables used in Experiment One including customers' perceived value and usage intentions. Subjects evaluated perceived value and usage intentions on multi-item seven-point Likert scales as follows.

(1) Customers' Perceived Value

Customers' perceived value of complementary products and services offered by e-business is operationalised as a non-monetary value. This is derived from a trade-off between the benefits and sacrifices of shopping convenience (Seiders et al. 2000). Customers' perceived value scale items as shown in Appendix A were used to measure the construct *Value* and were used for the first time here. Subjects were asked to rate each item using a seven-point Likert scale where (1) corresponds to 'Strongly Disagree' and (7) corresponds to 'Strongly Agree' as used in previous studies (Dodd et al. 1991).

(2) Usage Intentions

Usage intention represents the subject's intention to use the services provided by the company. The usage intention scale items, as shown in Appendix A, were used to measure the construct *Usage Intention*. Item one was adapted from Cronin et al. (2000) and items two and three were adapted from Dodds et al.'s (1991) 'willingness to buy' indicators. The subjects were asked to rate each item using a seven-point Likert scale where (1) corresponds to 'Highly Unlikely' and (7) corresponds to 'Highly Likely'. After the experimental research was designed, stimulus conditions were developed.

3.2.3 Stimulus Development

In order to test the hypotheses proposed in the previous chapter, 16 hypothetical travel services stimuli situations were created from the four main factors (independent or treatment variables) as described in Section 3.2.2. Online travel products and/or services were used because they contain all kinds of complementary products and services, such as travel booking, hotel reservations, car rentals, vacation packages, travel insurance, money services and gifts, as well as additional services such as travel guides, currency conversion calculators and weather information. The online travel services also provide online purchasing services and offline services complementarities for customers. Additionally, travel is one of the most mature B2C e-commerce categories, as measured by the proportion of total industry sales generated online (Grau 2006). The online travel service is the dominating business among online consumer sales providers (Rosen & Howard 2000; ComScore 2002, cited in Kim et al. 2005; Anckar & Walden 2000; Nua Internet Surveys, cited in Standing & Vasudavan 1999). The potential for growth in online travel sales is quite strong. According to the global market research firm, IDC, online airline ticket sales, hotel reservations and car rentals make the travel industry one

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of the strongest e-commerce markets (*Netstarter.com.au* 2008). Travel products purchasing has grown rapidly among Internet users in the US in recent years (Grau 2006). In 2006, online travel sales in the US was estimated to reach $79 billion and is expected to grow to more than $94 billion in 2007, and by 2010 online travel sales are expected to reach $146 billion, at a 17% annual growth rate (Grau 2007). By 2010, approximately 46% of total travel sales will be booked online, second only to computer hardware/software (55%) in the B2C e-commerce categories (Grau 2006). Furthermore, airline tickets, accommodation and concert/event tickets were the most popular items purchased online in 2006 by Australian online shoppers (ACNielsen 2006). In light of the above, the online travel industry is therefore considered to be appropriate for this study.

The 16 hypothetical travel services stimuli created from the four main factors and their levels are described below:

(1) *Component* of product and service complementarities (closely related vs. mixed-related). In this study, closely related components include complementary products and services that are used together with airline tickets (the core product). For instance, an online travel agency provides customers with closely related complementary products and services, such as hotels, car hire, and travel insurance in addition to offering airline tickets. Moreover, travel information including for example destination information and travel guides is also included in the closely related components. Table 3.3 part 1 lists all **closely related** travel product and service components used in this study.

Mixed-related *components* include some related complementary products and services such as hotels and car hire, as well as other products or services that are not directly related to airline tickets such as cruises, gifts, money services, and auctions.

Table 3.3 part 3 lists all **mixed-related** travel product and service components used in the study. These products and services were brought up from existing travel websites, such as *flightcentre.com.au*, *studentflight.com.au*, *statravel.com.au*, *zuji.com.au*, *jetset.com.au*, *extragreen.com.au, lastminute.com, yahoo.com*, and *travelocity.com* and were tested for their relatedness perception.

Table 3.3 List of Product Complementarities: Component and Range and their Levels Used in the Study

Product Complementarities: *Component* and *Range*:

1. **Closely Related** *Component* and **Wide** *Range*

> Flights | Hotels | Car Hire | Rail | Deals | Holidays | Travel Insurance | Destinations | Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

2. **Closely Related** *Component* and **Narrow** *Range*

> Flights | Hotels | Car Hire | Travel Insurance | Holidays | Deals |

3. **Mixed-Related** *Component* and **Wide** *Range*

> Flights | Hotels | Car Hire | Cruises | Rails | Specialist | Working Holidays | Travel Shop | Gifts | Credit Card | Money Services | Auctions | Gambling |

4**.** **Mixed-Related** *Component* and **Narrow** *Range*

> Flights | Hotels | Car Hire | Travel Shop | Gambling |

(2) *Range* of product and service complementarities (wide vs. narrow). In this study, a wide range is represented by 13 product and service components, whereas a narrow range is represented by six product and service components offered by an online travel agency. These numbers are based on the maximum and minimum mode of number of products and/or services offered by existing online travel websites. For example, Table 3.3 part 1 (above) illustrates a **wide** range of closely related components while Table 3.3 part 2 illustrates a **narrow** range of closely related components.

(3) *Online* **buying service complementarities** (greater vs. limited). In this study, the greater level of online service include: search for and select a flight, make a booking, pay for a booking, and view a booking online, as well as email the company. Customers are able to conduct their purchasing of airline tickets online from pre-purchase to post-purchase by themselves. Table 3.4 part 1 shows the **greater** level of online service.

The limited level of online service include only a few facilities: search for and select the flight, make an enquiry for booking online, and email the company. There are no other facilities such as online payment or the ability to view bookings online. The limited level of online only allows customers to send their enquiry for purchasing tickets online. After receiving the customer's enquiry, a travel agent will contact the customer for booking and payment details. Table 3.4, part 2 shows the **limited** level of online service.

Table 3.4 List of Online Buying Service Complementarities and their Levels Used in the Study

Online Buying Service Complementarities (*Online* Service):

1. Greater Level of *Online* Service

> - Search for & Select the Flights Online (Date/Destinations/Airlines/Prices)
> - Book Online
> - Pay Online (with Credit Card)
> - View Booking Online
> - Online Help

2. Limited Level of *Online* Service

> - Search for & Select the Flights Online (Date/Destinations/Airlines/Prices)
> - Request for Seats Available Online
> - Online Help

(4) *Offline* **service complementary facilities** (greater vs. limited). In this study, the greater level of offline servic*e* include physical travel agency retail stores/branches and a travel call centre available to support customers offline. In this case, the customers are able to walk in and talk face-to-face with travel agents or call them if there is any problem with their booking. Table 3.5 part 1 shows the details of the **greater** level of offline service.

For limited level of offline service, there is only a travel call centre available to support customers offline, and no physical travel agency retail store or branch available. Table 3.5 part 2 shows the details of the **limited** level of offline service.

Table 3.5 List of Offline Service Complementary Facilities and their Levels Used in the Study

Offline Service Complementary Facilities (*Offline* Service):

1. Greater Level of *Offline* Service

•	Call Centre	: Available
•	Travel Agency Retail Stores/Branch	: Available

2. Limited Level of *Offline* Service

•	Call Centre	: Available
•	Travel Agency Retail Stores/Branch	: **Not** Available

The four factors and their levels used in this study are summarised in Table 3.6 below.

Table 3.6 List of Four Independent Variables or Factors and their Levels Used in the Study

1. **Product Complementarities:** *Component* **and** *Range*

   1.1 Closely Related *Component* **and Wide** *Range*

   | Flights | Hotels | Car Hire | Rail | Deals | Holidays | Travel Insurance | Destinations | Activities | Restaurants | Entertainment | Credit Card | Travel Guide | |

   1.2 Closely Related *Component* **and Narrow** *Range*

   | Flights | Hotels | Car Hire | Travel Insurance | Holidays | Deals | |

   1.3 Mixed-Related *Component* **and Wide** *Range*

   | Flights | Hotels | Car Hire | Cruises | Rails | Specialist | Working Holidays | Travel Shop | Gifts | Credit Card | Money Services | Auctions | Gambling | |

   1.4 Mixed-Related *Component* **and Narrow** *Range*

   | Flights | Hotels | Car Hire | Travel Shop | Gambling | |

2. **Online Buying Service Complementarities (** *Online* **Service)**

   2.1 Greater Level of *Online* Service

   - Search for & Select the Flights Online (Date/Destinations/Airlines/Prices)
   - Book Online
   - Pay Online (with Credit Card)
   - View Booking Online
   - Online Help

   2.2 Limited Level of *Online* Service

   - Search for & Select the Flights Online (Date/Destinations/Airlines/Prices)
   - Request for Seats Available Online
   - Online Help

3. **Offline Service Complementary Facilities (** *Offline* **Service)**

   3.1 **Greater** Level of *Offline* Service

• Call Centre	: Available
• Travel Agency Retail Stores/Branch	: Available

   3.2 **Limited** Level of *Offline* Service

• Call Centre	: Available
• Travel Agency Retail Stores/Branch	: **Not** Available

In the next section, the two levels of manipulation of these four factors—product component, product range, online service, and offline service—were tested before conducting a pilot test to ensure that subjects perceived high or low levels were anticipated.

3.2.4 Manipulation Checks

A manipulation check, or manipulation validity, is a test to determine the validity of treatments (independent variables) in experimentation (Straub et al. 2004) to measure the extent to which treatments are perceived by the subjects in the experimental procedures or tests (Bagozzi 1997). In this study, the manipulation checks were performed on the levels of independent or treatment variables, described in Section 3.2.3, to ensure that the subjects' perceptions of products and/or services offered by the hypothetical online travel agencies were at the levels anticipated. To reiterate, the four manipulated independent variables and their levels were: (1) product *component* (closely related vs. mix-related), (2) product *range* (wide vs. narrow), (3) *online* service (greater vs. limited), and (4) *offline* service (greater vs. limited).

The manipulation check was performed using a self-administered questionnaire, as shown in Appendix B. There were five parts, A to E, to this questionnaire. In Part A, the perceived level of the *range* of bundles of products offered was checked to ensure that subjects perceived them as a wide or narrow range as anticipated. The wide range was represented by 13 product and/or service components, while the narrow range was represented by six product and service components as described in Section 3.2.3. In the questionnaire, subjects were presented with one condition only—either wide (Part 1 in Table 3.3) or narrow (Part 2 in Table 3.3)—and then were asked to rate their perception

on a given range of products and services using a seven-point Likert scale, where (1) corresponded to 'Very Small' and (7) corresponded to 'Very Large'.

In Part B, perceived levels of *online* buying service complementarities were checked to ensure that subjects perceived them as limited or greater level as anticipated. The greater level of *online* service include all online facilities: search for and select a flight, make a booking, pay for a booking, view a booking online, and online help. The limited online service facilities include only a few facilities: search for and select a flight, and make an enquiry for booking online as described in Section 3.2.3. In the questionnaire, subjects were presented with one condition—either the greater (Part 1 in Table 3.4) or limited (Part 2 in Table 3.4) level of *online* services—and were then asked to rate their perception on a given condition of self-service facilities for booking and purchasing airline tickets using a seven-point Likert scale, where (1) corresponded to 'Very Limited' and (7) corresponded to 'Very Wide'.

In Part C, perceived levels of *offline* service complementarities were checked to ensure that subjects perceived them as a limited or greater level as anticipated. For the limited level, there was only a call centre available to support the customer offline, while there were both a call centre and a physical retail store or branch in the greater level as described in Section 3.2.3. In the questionnaire, subjects were presented with one condition—either a greater (Part 1 in Table 3.5) or a limited (Part 2 in Table 3.5) level of *offline* facilities—and were then asked to rate their perception on a given condition of offline facilities using a seven-point Likert scale, where (1) corresponded to 'Very Limited' and (7) corresponded to 'Extended'.

In Part D, perceived levels of product components were checked to ensure that subjects perceived them as closely related or less related to the core service of flights. In the questionnaire, subjects were presented with lists of all 19 travel products and services, including closely related and less-related items as described in Section 3.2.3. The list of products and services were presented in the same manner as in the high or low level questionnaire. Participants were then asked to rate their perception of relatedness of each product or service to the flights using a seven-point Likert scale format, where (1) corresponded to 'Not at all Related' and (7) corresponded to 'Highly Related'. Perceived levels of relatedness of products or services were checked at the last part in order to prevent any bias that might occur when evaluating the bundle range in Part A.

In the final part, Part E, the demographic information of subjects was identified, which included gender, age, and experience in Internet shopping.

A total of 70 postgraduate students who were enrolled in the Masters of Marketing, Transportation and Logistics and Masters of Commerce, as well as business research students at Royal Melbourne Institute of Technology (RMIT) University, Australia, participated in this manipulation test. Participants were randomly assigned one of the two sets of questionnaires, with either a low or high level of the four treatment variables. Thirty-five students were given the low level of the four variables and the other half of the sample was given the high level. From 35 cases in the low level, 29 cases qualified i.e. those who had had prior experience in purchasing airline tickets. In the high level test, 26 of the 35 subjects had had prior experience. To equalise these two groups, three cases from the low level were randomly discarded. Twenty-six cases from both groups were then used to compare their perceptions of high and low manipulation conditions using analysis of variance (ANOVA) and mean scores rank order. The results

from the manipulation test, Parts A to C, are presented in Table 3.7. For the Part D manipulation test, results are presented in Table 3.8.

Table 3.7 Mean and *F*-value of Subjects' Perception on the Level of Products, Online Service, and Offline Service Offered by Hypothetical Travel Websites

Manipulation Variable	Mean of High Level	Mean of Low Level	$F(1,24)$	p
Part A: Range of products and services	6.19	4.83	30.632	<.001
Part B: Online service facilities	5.54	3.66	22.803	<.001
Part C: Offline service facilities	4.08	3.14	7.880	.007

Means of subjects' perceptions about products and/or services manipulated in this study from Part A to C were compared using one-way ANOVA as shown in Table 3.7. The results illustrate significant differences among consumers' perceptions of high and low levels of products *range* ($F = 30.632$, $p < 0.001$), *online* service facilities ($F = 22.803$, $p < 0.001$), and *offline* service facilities ($F = 7.880$, $p = 0.007$). In other words, subjects had two perceptions of the products and/or services relative to their high and low levels of *range*, *online*, and *offline* as they were presented, as anticipated.

Table 3.8 shows mean and standard deviation of relatedness perceptions of products or services offered together with airline tickets, from a seven-point Likert scale ranking from the highest to the lowest. The relatedness level is interpreted using the scale below.

Mean	Relatedness level
0 – 1.49	not at all related
1.5 – 2.49	less related
2.5 – 3.49	medium-less related
3.5 – 4.49	medium related
4.5 – 5.49	medium-closely related
5.5 – 6.49	closely related
6.5 – 7.0	highly related

The results reveal that products or services closely related to airline tickets are travel insurance, destinations, deals, hotels, holidays, and travel guides. Their average mean values are between 5.56 and 6.08. Products/services which are medium to closely related to airline tickets are car hire and restaurants. Their average mean values are between 4.54 and 5.44. Products/services that are medium related to airline tickets are activities, trains, entertainment, credit cards, specialists, working holidays, money services, and cruises. Their average mean values are between 3.56 and 4.33. Finally, products/services which are medium-less related to airline tickets are gifts and travel shop, auctions, and gambling. Their average mean values are between 2.69 and 3.33. These results were then used as a guide when manipulating levels of relatedness of products/services used in the actual study.

In the experiment, closely related product and service components included 12 products and services from item number 1 to number 12 that have a mean score of equal or higher than 4.00, a mid-point score. In contrast, mixed-related product and service components included 10 products and services from item number 11 to number 20 that have a mean score of lower than 4.00, plus two related products and services—hotels and car hire—that are normally offered by existing travel agencies.

Table 3.8 Mean and Standard Deviation of Subjects' Perception on Relatedness Level of Products and Services Offered Together with Airline Tickets by a Hypothetical Online Travel Agency.

Product/Service item	Mean	Std. Deviation	Relatedness level
1. Travel Insurance	6.08	.916	Closely related
2. Destinations	5.91	1.018	Closely related
3. Deals	5.76	1.144	Closely related
4. Hotels	5.69	1.204	Closely related
5. Holidays	5.58	1.287	Closely related
6. Travel Guides	5.56	1.247	Closely related
7. Car Hire	5.44	1.395	Medium to closely related
8. Restaurants	4.54	1.660	Medium to closely related
9. Activities	4.33	1.467	Medium related
10. Entertainment	4.13	1.388	Medium related
11. Rail/Trains	4.11	1.703	Medium related
12. Credit Cards	4.09	2.088	Medium related
13. Specialists	3.98	1.423	Medium related
14. Working Holidays	3.74	1.536	Medium related
15. Money Services	3.74	1.948	Medium related
16. Cruises	3.56	1.432	Medium related
17. Gifts	3.33	1.675	Medium-less related
18. Travel shop	3.33	1.675	Medium-less related
19. Auctions	3.26	1.711	Medium-less related
20. Gambling	2.69	1.591	Medium-less related

After conducting successful manipulation checks, the next step was to create the 16 treatment conditions that were presented to subjects. Since there are two experiments in this study, the presentation of stimulus set and sample details as well as pre-test and data-collection procedures are described separately in each experiment in Section 3.2.6.A and Section 3.2.6.B in the later part of this chapter. In the next section, data-analysis techniques in both experiments are described in detail.

3.2.5 Data Analysis

Data from the main study were analysed using descriptive statistics, *F*-tests, analysis of variance (ANOVA) and regression analysis. Additionally, validity and reliability of the construct measurements as well as ANOVA assumptions were also examined.

Descriptive Statistics

Descriptive statistics used in this study included frequencies, percentages, means, and standard deviations. These were used to analyse subjects' demographic profiles, previous shopping experience and research variables in the model.

Construct Validity and Internal Reliability

Construct validity was examined using factor analysis (Cronbach & Meehl 1955). Exploratory Factor Analysis (EFA) was employed in this study to investigate factors that might be represented by a set of items designed in this study. EFA is considered to be suitable because it is designed, and most appropriate, for use in exploring data sets, rather than to test hypotheses or theories (Newsom 2005; Osborne & Costello 2005).

The EFA was conducted on the customers' perceived value and behavioural outcomes items, using principal components analysis as the extraction method and promax (with Kaiser Normalisation) as the rotation method. Principal components analysis was used because it is the norm in the literature as outlined by Osborne and Costello (2005), and it has also been used in similar studies of perceived value (for example, Dodd et al. 1991; Parasuraman et al. 2005). Promax rotation is the preferred rotation method because this method is known to be relatively efficient at achieving simple oblique structures and is suitable for data sets in which correlation among factors is expected (Newsom 2005; Osborne & Costello 2005). To determine whether multiple indicators for each variable included one or more factor dimensions, or Kaiser criteria, all factors with eigenvalues greater than one were employed. Also, items with low loadings on all factors or high cross-loadings on two or more factors were eliminated (Churchill (1979).

Factor loadings above .4 were considered as evidence for construct validity (Gefen & Straub 2000). A software package, SPSS 15.0, was used to perform the factor analysis. A set of items, including perceived value and behavioural outcomes, were measured using principal components analysis with promax rotation.

Internal reliability of the measurement was assessed using Cronbach's standardized alpha (Cronbach 1951). The high value of alpha shows the high reliability of multiple item measures within a factor. A Cronbach's alpha of .70 or higher is considered an acceptable indicator of internal consistency (Peterson 1994). After the dimensionalities of multiple item measures were examined and qualified, the means of the sums of multiple items were calculated and used for further data analysis.

Analysis of Variance (ANOVA)

The hypotheses proposed in the previous chapter (Chapter 2) were tested using Analysis of Variance (ANOVA). An ANOVA is a useful tool to test the differences between two or more means in the experimental designs to uncover the main and interaction effects of manipulated independent variables on the dependent variable(s) (Hair 2006). The ANOVA is considered more appropriate than the regression models in this study because ANOVA uncovers interaction effects on a built-in basis while regression models cannot handle interaction unless explicit cross-product interaction terms are added (Garson 2007). Not only can ANOVA analyse one independent variable in an experiment, it can also be used for factorial designs in which more than one independent variable are examined simultaneously. Therefore, ANOVA can be used to analyse a variety of situations from a one to n between-groups factor (Keppel 1991). For example, one-way ANOVA is used to test the one between-groups factor or main effects,

two-way ANOVA is used to test the two between-groups factors or two-way interaction, and so on (Garson 2007). Details of each type of ANOVA are presented below.

The One-Way ANOVA

One-way ANOVA designs involve multiple levels of one independent variable (or factor). According to Garson (2007), one-way ANOVA tests differences in a single interval dependent variable among two, three or more groups formed by the categories of a single categorical independent variable. Also known as univariate ANOVA, simple ANOVA, single classification ANOVA or one-factor ANOVA, this design deals with one independent variable and one dependent variable, and tests whether the groups formed by the categories of the independent variable seem similar (specifically that they have the same pattern of dispersion as measured by comparing estimates of group variances) (Garson 2007). If the groups appear different, then it can be concluded that the independent variable has an effect on the dependent (Garson 2007).

The null hypothesis for the one-way ANOVA is: there is no difference in the population means of the different levels of factor A (the only factor). The alternative hypothesis is: the means are not the same (*Itl.nist.gov* 2006).

The Two-Way or Three-Way ANOVA

The two-way ANOVA is an extension of the one-way ANOVA. There are two independent variables in this case, thus it is called two-way ANOVA (Jones 2007) and is also known as a factorial ANOVA with two factors (McDonald 2007). Two-way ANOVA analyses one interval dependent variable in terms of the categories (groups) formed by two independents. Two-way ANOVA tests whether the groups formed by the categories of the independent variables have similar centroids (Garson 2007).

A two-way analysis of variance consists of three significance tests: a test of each of the two main effects and a test of the interaction of the variables. For the two-way ANOVA of factor A and B, the possible null hypotheses are:

1. There is no difference in the means of factor A
2. There is no difference in the means of factor B
3. There is no interaction between factors A and B

The alternative hypothesis for cases 1 and 2 is: the means are not equal. The alternative hypothesis for case 3 is: there is an interaction between A and B (*Itl.nist.gov* 2006).

Multivariate or N-Way ANOVA

A multivariate or n-way ANOVA deals with *n* independent variables. As the number of independent variable increases, the number of potential interactions proliferates. For example, two independent variables have a single two-factor or first-order interaction (AB). Three independent variables have a total of four interactions: three two-factor or first-order interactions (AB, AC, BC) and one three-factor or second-order interaction (ABC). Four independent variables have a total of 11 interactions: six first-order (AB, AC, AD, BC, BD, CD), four second-order (ABC, ABD, BCD, ACD), and one third-order (ABCD) interaction (Garson 2007). For each case, the null hypothesis is the same: there is no difference in means and the alternative hypothesis is the means are not equal (*Itl.nist.gov* 2006).

Table 3.9 summarises the interactions created for two, three and four independent variables.

Table 3.9 The Interactions Created for Two, Three and Four Independent Variables

Treatments	*Interaction Terms*		
	Two-Way	Three-Way	Four-Way
A, B	A x B	-	-
A, B, C	A x B A x C B x C	A x B x C	**-**
A, B, C, D	A x B A x C A x D B x C B x D C x D	A x B x C A x B x D B x C x D A x C x D	A x B x C x D

Source: Hair (2006, p. 405)

Since this study employed 2 x 2 x 2 x 2 factorial design, the four-way ANOVA was used to test the proposed hypotheses. There were 15 tests conducted which included four main effects (A, B, C, D), six two-factor interactions (AB, AC, AD, BC, BD, CD), four three-factor interactions (ABC, ABD, ACD, BCD), and one four-factor interaction (ABCD).

The SPSS Univariate General Linear Model was used to generate the analysis of variance results of the main and interaction effects on customers' perceived value. The SPSS Univariate General Linear Model also provided the mean values of the main and interaction effects in each level used for further analysis.

Assumptions of ANOVA

According to Hair (2006), the univariate test procedures of ANOVA are valid if it is assumed that:

- The groups are independent in their response on the dependent variable.

- The dependent variable is normally distributed.

- Variances are equal for all treatment groups (homogeneity of variances).

Each of these three assumptions is discussed in turn next.

Independence of Observations. The assumption of the independence of subjects' responses can be ensured by using a random sampling plan (Hair 2006). In an experimental setting, the independence of observations can be ensured by the random assignment of individuals to the treatment conditions. This study employed a completely randomised experimental design that ensured the independence of observations was met.

Normality Assumption. This is the assumption that the distributions in each cell of the design are normal. This assumption can be tested in several ways such as inspecting the histograms, stem-and-leaf plots, and normality plots; creating 95% confidence intervals from the skewness and kurtosis statistics; and applying the Kolmogorov-Smirnov test or the Shapiro-Wilks test. The Shapiro-Wilks test is the standard test for normality and recommended for small and medium samples up to n = 2000 (Garson 2007). The Kolmogorov-Smirnov test is an alternative test of normality used for large samples (Garson 2007).

In this study, the normality of the 16 difference groups was tested using skewness and kurtosis as well as the Shapiro-Wilks test. When testing normality using skewness and kurtosis statistics, skewness and kurtosis estimate values are transformed to z-scores values by dividing the estimate by its standard error (Garson 2007; Wuensch 2007). A common rule-of-thumb test for normality using skewness and kurtosis statistics is that the z-scores for skewness and kurtosis should be within the +2 to -2 range (Garson 2007).

The *F*-test in ANOVA, however, is robust to violations of the normality assumption (Keppel 1991; Maxwell & Delaney 2004; Winner et al. 1991). The term robustness refers to 'the extent to which a statistical method produces correct results even when its assumptions fail to hold' (Maxwell & Delaney 2004, p. 112). The normality assumption is among the less crucial assumptions of ANOVA, assuming that the kurtosis is non-extreme (from -1 to +2) and the sample size is not very small (e.g. less than five per group) (Garson 2007).

Homogeneity of Variances. This assumption purports that each group of the independent(s) has the same variance on an interval dependent, that is, the variances in each of the cells are not different from each other. Homogeneity of variances can be tested using Levene's test in the General Linear Model (GLM) or by running the Examine procedure. If the Levene statistic is significant—at the .05 level or higher—the researcher rejects the null hypothesis that the groups have equal variances (Garson 2007). ANOVA is generally robust to moderate violations of homogeneity of variance as long as the sample sizes in each group are equal to each other and are not very small (e.g. less than five per group) (Maxwell & Delaney 2004). Moderate violations of *F*-test assumptions have little or no effect on substantive conclusions in most instances (Cohen 1977).

F-Tests

The key statistic in ANOVA is the *F*-test of the difference of group means. If a 'Sig.' or 'p' probability value of *F* is less than the critical value (α)—usually set at .05—for any independent (or such combination), it is concluded that that variable (or that interaction of the combination) has a significant effect on the dependent variable, while any value greater than this will result in non-significant effects.

Effect Size Measures

Effect size coefficients are standardized measures of the strength of a relationship. The effect size indicates the relative importance of the given covariate, main or interaction effect (Garson 2007). As suggested by the American Psychological Association (1994, cited in Garson 2007), effect sizes should be reported as well as significance levels when reporting ANOVA results. One of the commonly used measures of effect size in ANOVA is partial eta squared (ηp^2) (Becker 1999; Cohen et al. 2003; Hays 1994; Keppel 1991; Maxwell & Delaney 2004). Partial eta squared is 'the proportion of variation associated with a factor, holding constant all other factors in the design' (Jaccard 1998, p. 38). Partial eta squared is the percentage of total variance in the dependent variable accounted for by the variance between categories (groups) formed by the independent variable(s) (Garson 2007). For example, $\eta p^2 = .367$ means that 36.7% of the variability in the dependent variable can be explained or accounted for by the independent variable. Partial eta squared is preferred than eta squared because it reflects the effect after controlling other variables in the model (Jaccard 1998, Garson 2007). Thus, in this study, partial eta squared was used to measure the effect size of main and interaction effects and was reported along with significance levels when reporting ANOVA results in Chapter Four. The degree of effect size used in this study is based on Keppel's (1991) criteria for the behavioural sciences: small, medium, and large effects equal to .01, .06 and .15 respectively.

Nomological Validity

Nomological validity is a form of construct validity that devolves from the very existence of a well-developed theoretical research stream (also called a nomological network) (Cronbach & Meehl 1955; Bagozzi 1980, cited in Straub et al. 2004, p. 395).

Nomological network describes the degree to which a construct behaves as it should within a system of related constructs (Cronbach & Meehl 1955; Bagozzi 1980, cited in http://en.wikipedia.org/wiki/Nomological_validity).

In this study, the relationship between customers' perceived value and behaviour intentions was examined to confirm their theoretical relationships using regression analysis. Regression analysis is a statistical tool for the investigation of relationships between two or more variables (Churchill & Iacobucci 2005). Previous studies have used regression techniques to examine relationships between customers' perceived value and several behavioural outcomes, such as willingness to buy (Dodds et al. 1991), purchase intentions (Chen & Dubinsky 2003), and other behavioural attributes such as saying positive things, willingness to recommend, shopping likelihood, encouraging other people to do business with the company, considering the company as a first choice, and doing more business with the company (Parasuraman et al. 2005; Baker et al. 2002).

The relationship between customers' perceived value and behavioural intentions was examined with the correlation coefficient (r). The correlation between two variables reflects the degree to which the variables are related including the size and the direction of the relationships. The value of the correlation coefficient can vary from -1 (perfectly negative) to +1 (perfectly positive). The direction of the relationship is evaluated from the sign of the coefficient (positive or negative). Positive correlation indicates that both variables increase and decrease together, whereas negative correlation indicates that as one variable increases the other decreases, and vice versa (Churchill & Iacobucci 2005). Statistical significance was also checked using an *F*-ratio for the overall fit between the dependent and independent variables.

3.2.6 Research Process

Two experiments were conducted in this study. Experiment One used a paper-based hypothetical online travel website stimulus using a small sample size. Results from the main study showed some problems in the perceived value scales measurement validity, which meant that data could not be used for further analysis to test the hypotheses proposed. Experiment One, therefore, was considered to have failed. Possible causes of this failure stemmed from the limitations of the stimulus instrument or the paper-based travel websites that did not allow subjects to access a website. Experiment Two, therefore, was conducted with modifications of the stimulus instrument, such that an interactive travel website was developed which was similar to a real website to enhance the experience for subjects and minimise the unreal effects reported by subjects in the paper-based experiment. Each experiment is described in detail in the following sections.

A. EXPERIMENT ONE

This section describes the research process used in Experiment One including sampling design, sample size, stimulus development, questionnaire design, procedure, and data analysis.

A.1 Sampling Design

A purposive non-probability sample was used in Experiment One. Non-probability samples are those that rely on personal judgment in the element selection process and therefore prohibit estimating the probability that any population element will be included in the sample (Churchill & Iacobucci 2005). In this study the selection of samples to participate in the study was based on the researcher's judgment and not from a

randomised population of Internet shoppers since there was no way of obtaining a complete list of Internet shoppers in Australia. Additionally, since the research aim was to gather insights, rather than construct general laws, the non-probability sample selective process was suitable, subject to discussing the limitations (McDaniel & Gates 2002).

In Experiment One, business postgraduate students at RMIT University, Melbourne, Australia who had purchased airline tickets via the Internet were purposively recruited. These participants were surveyed because their Internet shopping experience and actual online purchasing were considered to be useful in providing insights relating to consumer value of products or services offered by e-business. Additionally, there are three justifications for using a postgraduate student sample. First, students have been accepted for theory testing research and even desired for theory validation research in which the multivariate relationships among constructs are tested (Calder et al. 1981). Second, people who search for, or purchase, travel online tend to be between 26 and 55 years old, and are more likely to have completed a college degree (Weber & Roehl 1999). Third, results from consumer behavioural comparison studies have suggested that students and non-student consumers do not behave differently (Lichtenstein & Burton 1989; Yavas 1994). However, the sample is not representative of the population (Churchill & Iacobucci 2005) and the results cannot be generalised for the population (Sekaran 2003).

A.2 Sample Size

In determining a sample size in the experimental design, Roscoe (cited in Sekaran 2003) suggests the rule of thumb that 10 samples in each experimental cell/condition

should be employed. Therefore, in this study, 10 subjects per cell or condition were required, amounting to a total of 160 subjects.

A.3 Presentation of Stimulus Set

After checking subjects' perceptions of the levels of manipulation variables used in the study as described in Section 3.2.4, 16 paper-based hypothetical travel services stimulus treatments were developed. The 16 paper-based hypothetical online travel services stimuli were presented with a verbal description of the four main variables of products and/or services manipulated. The advantages of a verbal description are the simplicity and efficiency with which data can be collected (Green & Srinivasan 1978).

Figure 3.2 shows the paper-based hypothetical online travel services #1 presented to subjects. It includes four manipulation conditions: (1) limited online complementary services, (2) closely related products, (3) wide product range, and (4) greater offline services as presented in profile #1 in Table 3.2 (Section 3.2.2). The services offered were displayed in three parts: Part I shows the closely related products and the wide product range manipulated; Part II shows the limited online complementary services; and Part III shows the greater offline services manipulated as described in Section 3.2.3.

Hypothetical Online Travel Agency XYZ

<u>**Part I**</u> **Products and services offered:**

| Flights | Hotels | Car Hire | Trains | Ferry | Deals | Travel Insurance | Destinations |

| Holidays | Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

<u>**Part II**</u> **Online self-service facilities for booking & purchasing airline tickets:**
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online help & email   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

<u>**Part III**</u> **Offline customer support facilities:**
- Travel agency retail stores/branches   : Available
- Call centre   : Available

Figure 3.2 Presentation of Paper-Based Hypothetical Online Travel Agency #1

Figure 3.3 shows the paper-based hypothetical online travel services #2 (condition 2). The difference from Figure 3.2 (condition 1) is that the fourth manipulation condition, limited offline services, was presented as '**Not** available', referring to the travel agency retail stores/branches.

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Hypothetical Online Travel Agency XYZ

<u>Part I</u> **Products and services offered:**

| **Flights** | **Hotels** | **Car Hire** | **Trains** | **Ferry** | **Deals** | **Travel Insurance** | **Destinations** |

| **Holidays** | **Activities** | **Restaurants** | **Entertainment** | **Credit Card** | **Travel Guide** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

<u>Part II</u> **Online self-service facilities for booking & purchasing airline tickets:**
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online help & email   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

<u>Part III</u> **Offline customer support facilities:**
- Travel agency retail stores/branches   : **Not** available
- Call centre   : Available

Figure 3.3 Presentation of Paper-Based Hypothetical Online Travel Agency #2

The 16 paper-based hypothetical online travel agencies treatment conditions are shown in Appendix C. In each questionnaire, subjects were randomly assigned to one of these 16 treatment conditions. Each condition was followed by six items of perceived value and three items of intention to use the services provided by the hypothetical online travel agency. Each item had a seven-point Likert scale. The questionnaire used in the first experiment is presented next.

A.4 Questionnaire Design

A self-administered data-collection questionnaire was developed based on the literature and the study's objective. The questionnaire used in Experiment One for website #1 is presented in Appendix D. Subjects were given a booklet that contained the manipulations of the paper-based travel website as well as the questionnaire. Before

subjects were given the questionnaire, a qualifying statement about their experience in purchasing airline tickets over the Internet was announced by the researcher and presented on the cover page in order to identify qualifying subjects. The questionnaire was composed of two sections. In the first section, the scenario of a pre-purchase situation was set up for subjects which described the complementary products and/or services offered together with the airline ticket. Subjects were instructed to assume that they had a vacation planned and were looking for airline tickets and other travel products and services offered together with their airline tickets by a hypothetical online travel agency. Subjects were randomly assigned one of the 16 profiles of paper-based hypothetical online travel services to evaluate as shown in previous section. Each profile included product and/or service complementarities offered to travellers, manipulated by the researcher, together with airline tickets, which included the components and number of product and service complementarities, online self-service complementarities and offline service complementarities as described in Section 3.2.3. Subjects were required to read more about the products and services subcategories provided in the Appendix at the end of the questionnaire (see Appendix E). Then they were required to rate their perceived value and usage intentions on a seven-point Likert scale after reading through the products and/or services provided by the hypothetical travel agency.

The second section of the questionnaire comprised three parts. The first part measured the consumers' shopping motives. Subjects were asked to rate their online shopping motives and beliefs about risk in Internet shopping. Then subjects were asked about their experience in purchasing airline tickets and travel products and services. Finally, subjects were asked to provide demographic information including gender, age, occupation and income.

Before conducting a pilot test, the questionnaire was sent to five experts in electronic commerce and some modifications were made according to their recommendations. Additionally, the study was approved by the RMIT University Human Research Ethics Committee to ensure the protection of the rights of human subjects before undetaking the pilot test (Appendix F).

A.5 Pretest or Pilot test

The pretest was conducted to check for the administrability of the questionnaire in terms of the following: the content and face validity of the instrument, the readability of the survey, the layout of the profiles, the length of the questionnaire, and the time needed to complete the questionnaire. The questionnaire was conducted in a classroom setting using a self-administered survey. Sixteen postgraduate students participated in the study, one for each profile. Each subject received a booklet containing two sections as described in section A.4. Subjects were asked to rate their perceived value and intention to use the services provided by the hypothetical online travel agency. After subjects completed the questionnaire, they were asked whether they understood the instructions, scale items and products. Based on the pretest, subjects spent about 15-20 minutes completing the questionnaire. The items and the instructions were well understood by the subjects, and no major misunderstandings were found. It was therefore identified that the main data-collection procedure could then be continued.

A.6 Main Study

In Experiment One, 160 RMIT business postgraduate students, involving 10 subjects per profile/treatment condition, were surveyed in October 2006. They were recruited from various classes. The researcher verbally described the purpose of the

current study and the data-collection procedure to the participants. They were each randomly assigned to one of the 16 hypothetical online travel agencies, if they were willing to participate in the survey. The participants received a small gift for their participation in the study.

A.7 Data Analysis: Experiment One

Data from the 176 subjects, 16 from the pretest and 160 from the main study, were further analysed for validity and reliability of scale items used in the study. Exploratory factor analysis was used to examine the validity of customers' perceived value and usage intention measurement scale items, using a principal component analysis with promax rotation. The analysis produced two components as shown in Table 3.10. The results indicated some problems with the loading of the measurement scale items. The customers' perceived value scale items, items one to six, did not load into the same component as expected. Moreover, items three, five and six were cross-loading with the usage intention scale items. There was a problem with the data that could not be resolved by manipulating the number of factors retained, customers' perceived value and usage intention scale items, and therefore could not be averaged for further analysis of variance.

Table 3.10 Results from Factor Analysis of 6-Scale Items of Customers' Perceived Value and 3-Scale Items of Usage Intentions

Perceived value	Component 1 in component matrix	Component 2 in component matrix
1. The mix of product and service categories (in Part I) offered by this online travel agency is convenient for my one-stop shopping travel needs.	.216	.793
2. The range of products and services (in Part I) offered by this online travel agency is convenient for me to choose and purchase from.	.099	.840
3. The online self-service facilities (in Part II) provided by this online travel agency are convenient for booking and purchasing my airline tickets.	.698	.205
4. The customer support facilities (in Part III) provided by this online travel agency are convenient for me to get services support (such as planning trips, paying for booking, and/or changing booking).	.242	.479
5. Overall, shopping from this online travel agency saves a lot of my time and effort in acquiring products and services for my trip.	.726	.496
6. Considering time and effort involved, this online travel agency provides valuable products and services for my trip.	.675	.513
7. The probability that I would consider using an online travel service similar to this one is	.815	.116
8. My intention to use an online travel service similar to this one is	.830	.150
9. The likelihood of using an online travel service similar to this one is	.842	.193

A.8 Methodology Problems

Since the measurement validity of perceived value and usage intention scale items did not meet acceptable standards, data from the main study could not be used for further analysis of variance and testing of the hypotheses. One of the possible explanations for this failure lies in the inherent limitations of the paper-based travel website stimulus

instrument. With the paper-based travel website, subjects could not access a website, and therefore could not get the impression of online shopping.

Another methodological problem involved the measurement scale items that were limited by the paper-based stimulus. Value scale items were only operationalised as non-monetary values. Additionally, future intention was limited to only usage intention. This is, again, due to the fact that they were restricted by the paper-based website.

Finally, the sample size, 10 subjects per cell was considered not large enough to detect the effect of treatments in the experiment. Therefore, the sample plan was modified significantly in Experiment Two.

In the following section, Experiment Two is presented. In this experiment, solutions to the problems found in Experiment One as described above were incorporated to improve the research.

B. EXPERIMENT TWO

The design of Experiment Two constituted a significant modification and extension of Experiment One by improving the three main areas as mentioned in the previous section, including presentation of stimulus set and questionnaire design, data-collection procedure, sample design and sample size.

B.1 Presentation of Stimulus Set: Interactive Website

Results from Experiment One showed that the paper-based verbal descriptive websites had significant limitations and did not represent a realistic online travel shopping experience since it did not provide real access or searchability. Therefore, in

Experiment Two, an experimental website-based research project was developed to present the stimulus set. The interactive website-based process allowed subjects to experience their online buying process and browse for products and services in more detail. Additionally, the colour and photos in the interactive website were much more interesting and helped create the feeling of real online shopping more convincingly than the paper-based descriptions.

In Experiment Two, the 16 interactive hypothetical travel websites were created to closely mimic the design of actual travel websites with the help of a school website developer. The researcher believed that the creation of new stimuli would lessen the disadvantages that might arise from any pre-existing attitudes or prejudices of subjects towards travel websites. This would then enable implementation of the design manipulations to test the hypotheses. To create more realistic stimuli, the researcher reviewed and adopted common design and navigational attributes of existing travel websites such as *extragreen.com.au*, *flightcentre.com.au*, *jetset.com.au*, *ineedaholiday.com.au*, *lastminute.com*, *statravel.com.au*, *studentflight.com.au*, *travelocity.com*, *yahoo.com*, and *zuji.com.au* (see Appendix G for lists of referencing existing travel websites used in this study).

The experimental websites were created along with the scenario of travel with a friend to Phuket, Thailand for the period 1-8 December 2007, with a $5,000 budget for their trip. The travel date and destination were fixed to make it possible that the experimental websites were static in terms of date and destination. If the participants chose other destinations besides Phuket, they were asked to go back and book a trip to Phuket. The budget was fixed in the scenario to cover their flights and other travel products needed for their trip.

The experimental websites were manipulated for the treatment conditions as proposed in Table 3.2 and developed as described in Section 3.2.3. All other information—for example, product and service information, price and website design—was consistent across the 16 websites. However, there were some limitations in creating products or services information in this study. First, since there was a great deal of information that had to be created in the limited time available, not all the information was provided. For example, for the activities page, some details such as travel duration time and dates available were not available. Also, there were not many product or service choices provided in comparison to real travel websites. However, the website contained enough information for the study. Second, there was no check-out system to verify and confirm the booking before submitting because of the complicated nature of this aspect of the booking system. Finally, the experimental websites created in this study did not include advertising links or banners, a company ABN (Australian Business Numbers) or logo, or links to third party companies at the bottom of the page.

Macromedia® Dreamweaver® was used to create the online travel sites. It took four months to create the first versions of the websites. After pretesting, the websites were modified for another month and were then used for the main study in July 2007. A copy of the website is supplied on CD-ROM as Appendix H. Presentation of treatment variables including product, online service, and offline service complementarities are presented below.

Presentation of Product Complementarities Stimuli

Product and service complementarities stimuli used in the website-based experiment were the same as those used in Experiment One. Lists of products and

services were displayed in the top menu bar of the home page. The manipulation emphasised product component (closely related and mixed-related) and product range (wide and narrow) as described in Section 3.2.3, Table 3.3. For instance, Figure 3.4 and Figure 3.5 below illustrate the differences between **product component** (closely and mixed-related) stimulus conditions presented to the subjects. Figure 3.4 shows a wide range of **closely related** products whereas Figure 3.5 shows a wide range of **mixed-related** products. Subjects were able to browse through this products and services information, much as they would be able to with real websites.
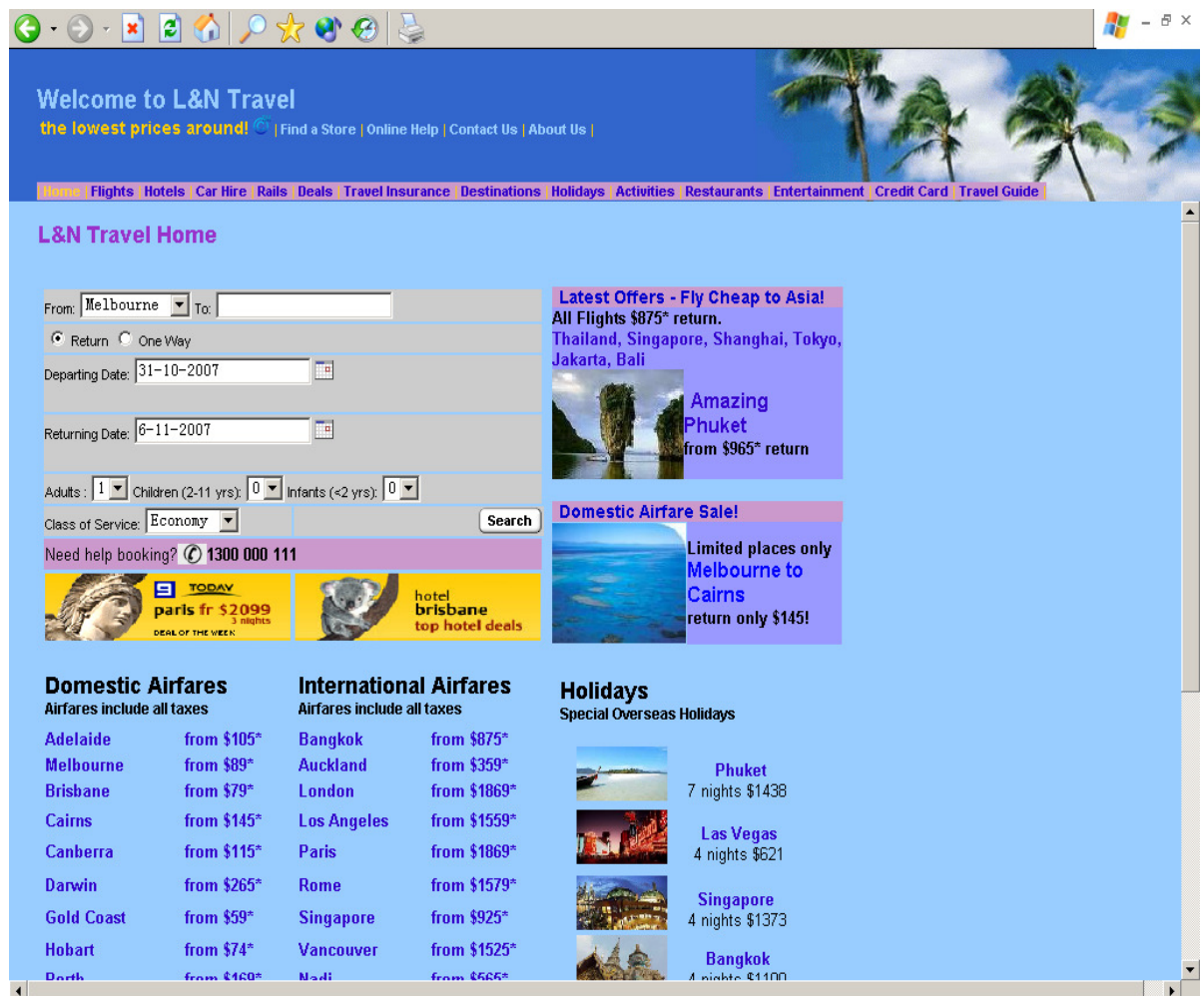
Figure 3.4 The Hypothetical Travel Website that Offers Closely Related Products *Component*

Figure 3.5 shows the website that contains a wide range of mixed-related products.
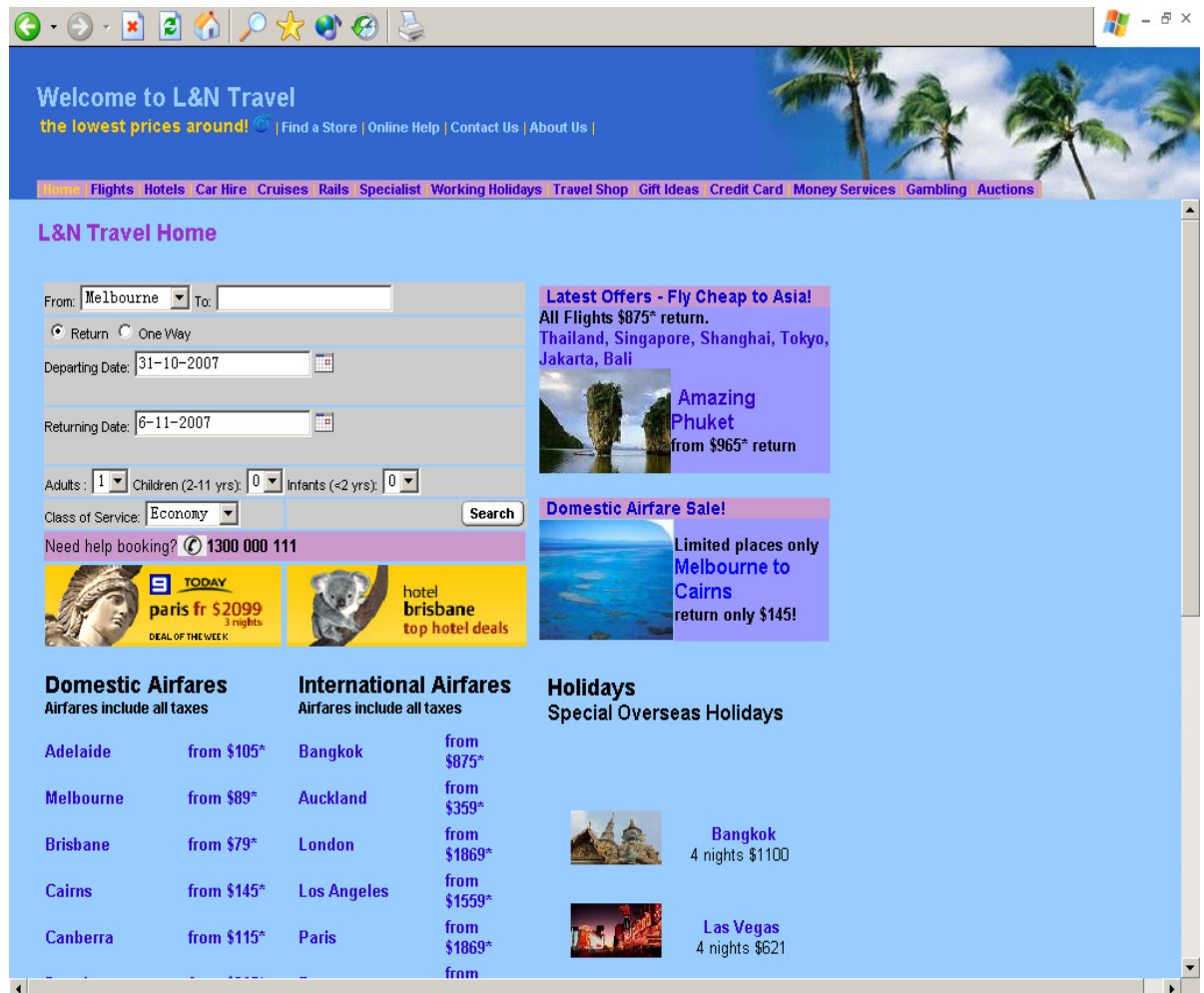
Figure 3.5 The Hypothetical Travel Website that Offers Mixed-Related Products
Component

In addition, Figure 3.6 and Figure 3.7 illustrate examples of the differences between **the ranges of** product stimulus conditions (wide and narrow range) used in the experimental website, as described in Section 3.2.3, Table 3.3. While Figure 3.6 shows a **wide range** of closely related products, Figure 3.7 shows a **narrow range** of closely related products offered to the customers.
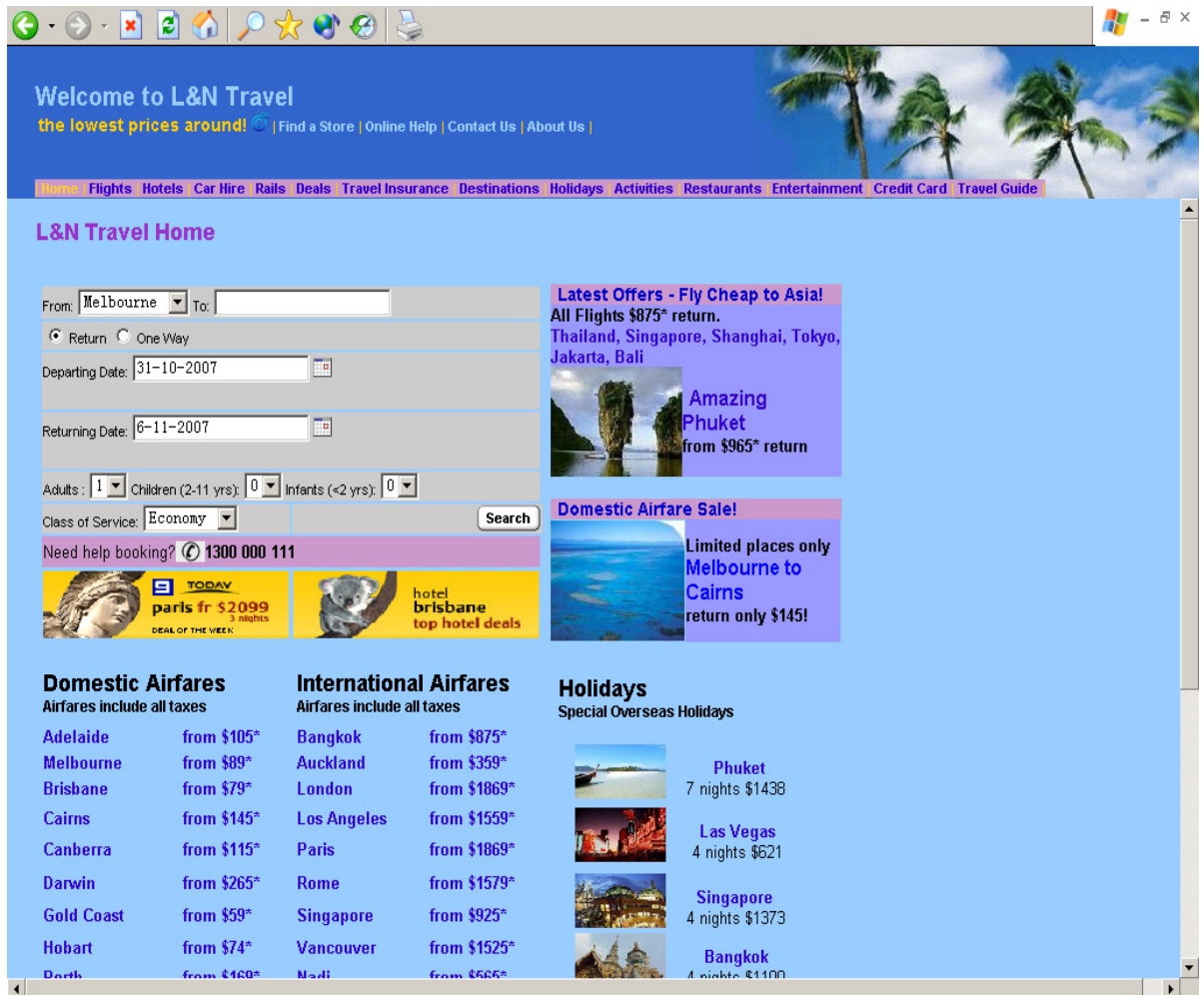
Figure 3.6 The Hypothetical Travel Website that Offers a Wide Product *Range*

Figure 3.7 shows the website that contains a narrow product range.
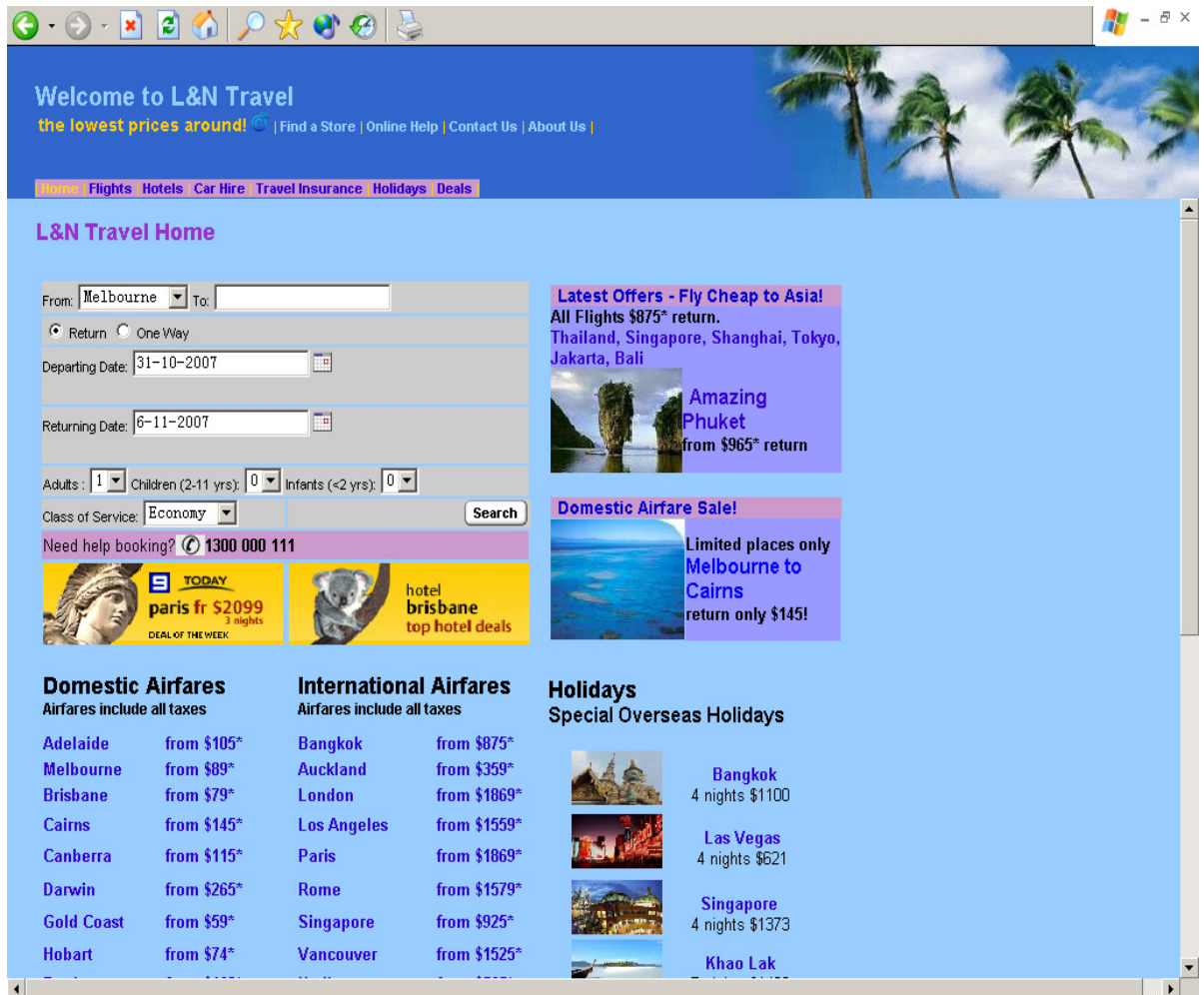
Figure 3.7 The Hypothetical Travel Website that Offers a Narrow Product *Range*

Presentation of Online Buying Service Complementary Facilities Stimuli

The *online* buying service complementary facilities (greater and limited) conditions, as described in Section 3.2.3, Table 3.4, were manipulated through the activities of the airline ticket buying process. For greater *online* services condition, subjects could book online. In contrast, where there was limited *online* services condition, subjects could not book online, but could only send an enquiry online. There were four steps to present the online buying service complementarities stimulus. Subjects were instructed to book airline tickets by following the instructions step-by-step until the end of the booking process. On the last page of the booking process, the participants

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received a message to confirm the booking services provided by the experimental website.

For example, for subjects who were assigned a **greater *online*** services condition, at the flights page in step 1 they were instructed to key in booking details to search for the flights. In step 2, they were instructed to select the flights of their choice. Under the greater *online* services condition, participants were able to book online by clicking the 'BOOK ONLINE' button. In step 3, participants were asked to give their personal information. Since the purpose of this activity was to let the participants experience the booking process, they were instructed to not provide their real information to avoid giving sensitive information such as their credit card number. Because of a limitation in the check-out system, there was no verifying and confirming page for booking details. The booking process then proceeds to the last page. On the last page subjects received a confirmation message of their online booking. Additionally, in this study, the researcher communicated with subjects through a 'study focus' located on the last page, where subjects received a summary of booking services to make sure they received the manipulation conditions explicitly. Figure 3.8 (a-d) shows the steps in the booking process for the greater *online* services condition.

Figure 3.8 (a) Step 1: Search for the Flights by Key in the Booking Details as Instructed

Figure 3.8 (b) shows step 2 in flights booking for the greater *online* services condition, during which customers select the flight of their choice and then book their selected choice online.

Figure 3.8 (b) Step 2: Select the Flight of their Choice

Figure 3.8 (c) shows step 3 in flights booking for the greater *online* services condition: entering personal details for booking online.

Figure 3.8 (c) Step 3: Enter Personal Details for Booking Online

Figure 3.8 (d) shows the final step in flights booking for the greater *online* services condition, which shows the booking confirmation message.

Figure 3.8 (d) Final Step*:* Show Booking Confirmation Message

Under the **limited** *online* services condition, step 1 was the same as the greater *online* services condition: subjects were instructed to key in their booking details as instructed to search for the flights. How ever, step 2 was different. Instead of booking online, subjects were only able to send their '**Enquiry'** regarding their choice of flights online. They were not able to book online. In step 3, participants were then asked to submit their personal information and again subjects were asked to not give their real personal information. At the last page, subjects received a message in response to their enquiry: that they would be contacted by a travel advisor about their enquiry. Further, a summary of the booking services was provided to make sure that they received the

manipulation conditions explicitly through the study focus. The steps in the booking process for the limited *online* services condition are displayed in Figure 3.9 (a-d).
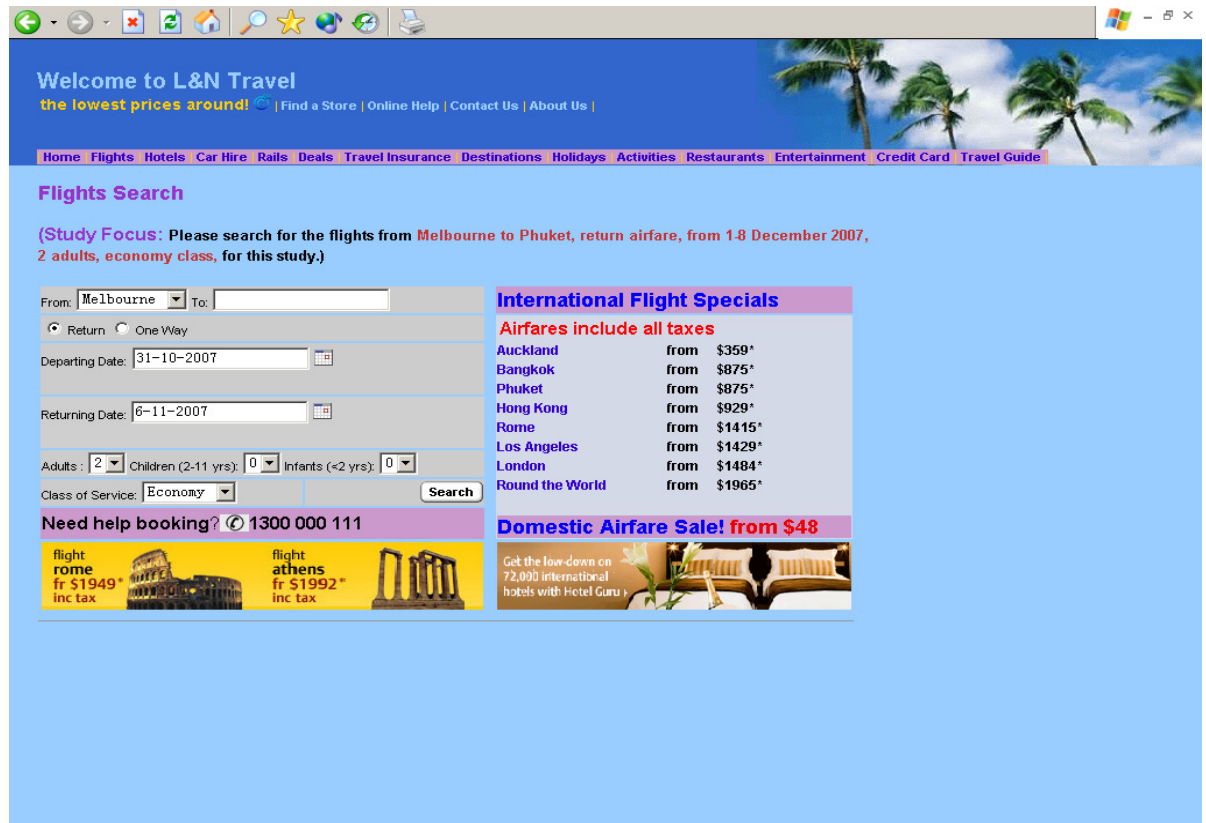
Figure 3.9 (a) Step 1: Search for the Flights by Key in the Booking Details as Instructed

Figure 3.9 (b) shows step 2 in the flights booking process for the limited *online* services condition: selecting the flight of their choice. In contrast to the greater *online* services condition (Figure 3.8 (b), p. 120), there are no flight details provided for each airline, and the customer cannot book online. Instead, they can only send their flight enquiry to the travel agents.

Figure 3.9 (b) Step 2: Select the Flight of their Choice for Limited *Online* Services
Condition

Figure 3.9 (c) shows step 3 in the flights booking process for the limited *online*

services condition: entering personal details for the enquiry online.

Figure 3.9 (c) Step 3: Enter Personal Details for Enquiry Online for Limited *Online*
Services Condition

Figure 3.9 (d) shows the final step in the flights enquiry for the limited *online*
services condition, which shows a request response message. This is not a confirmation
message of booking online, but a request confirmation.
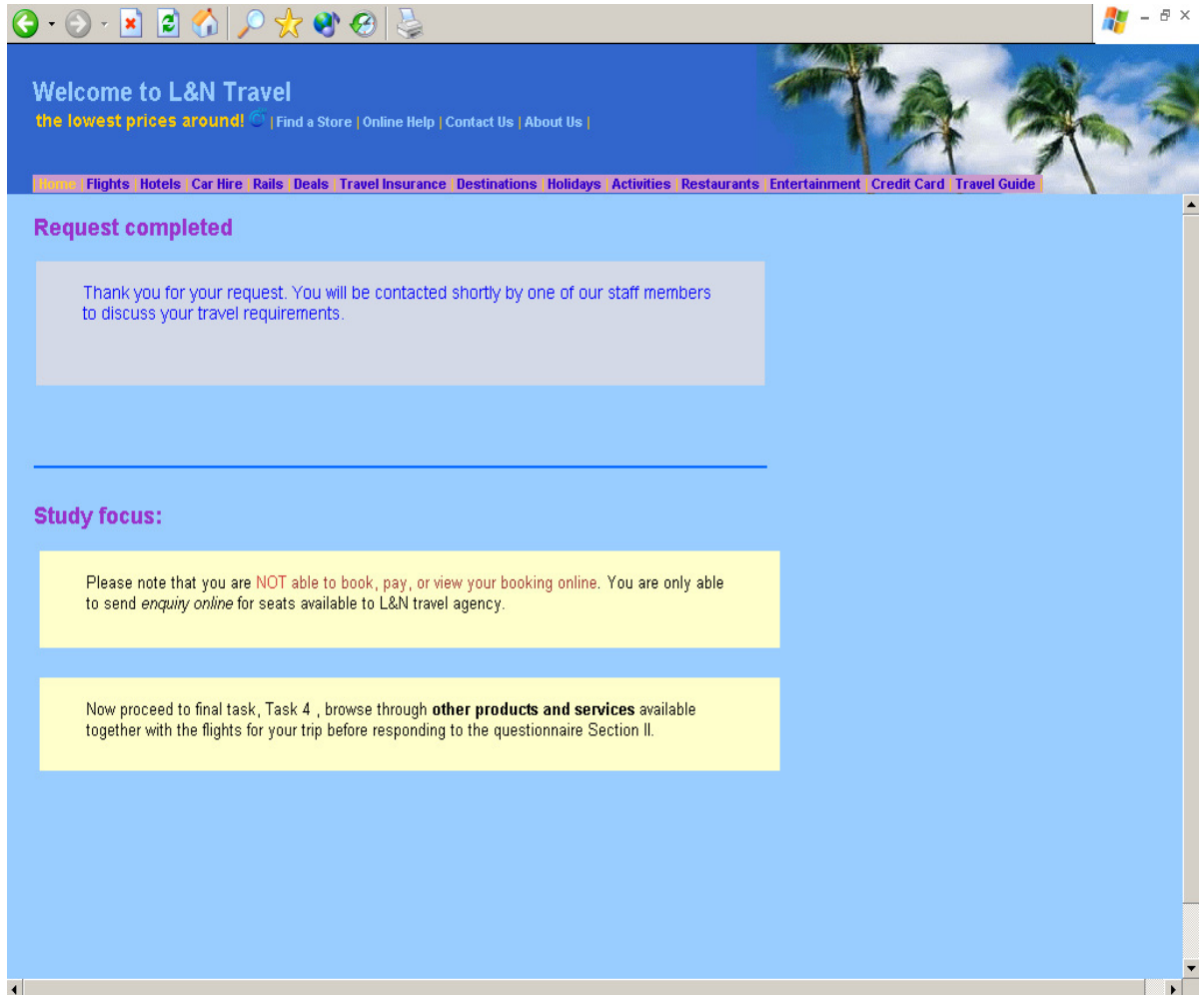
Figure 3.9 (d) Final Step: Show Request Message for the Limited *Online* Services
Condition

Presentation of Offline Service Complementarities Stimuli

The *offline* service complementarities (greater and limited) conditions were
manipulated through a 'Contact Us' page. Participants were instructed to go to the
'Contact Us' page and read through that page to learn how to contact the company. In a
greater *offline* service condition, the page displayed three ways to contact the company:
visit the store, telephone the call centre, or email the company. Also, at the end of the
page, a summary message of the manipulation condition was presented explicitly as
shown in Figure 3.10.
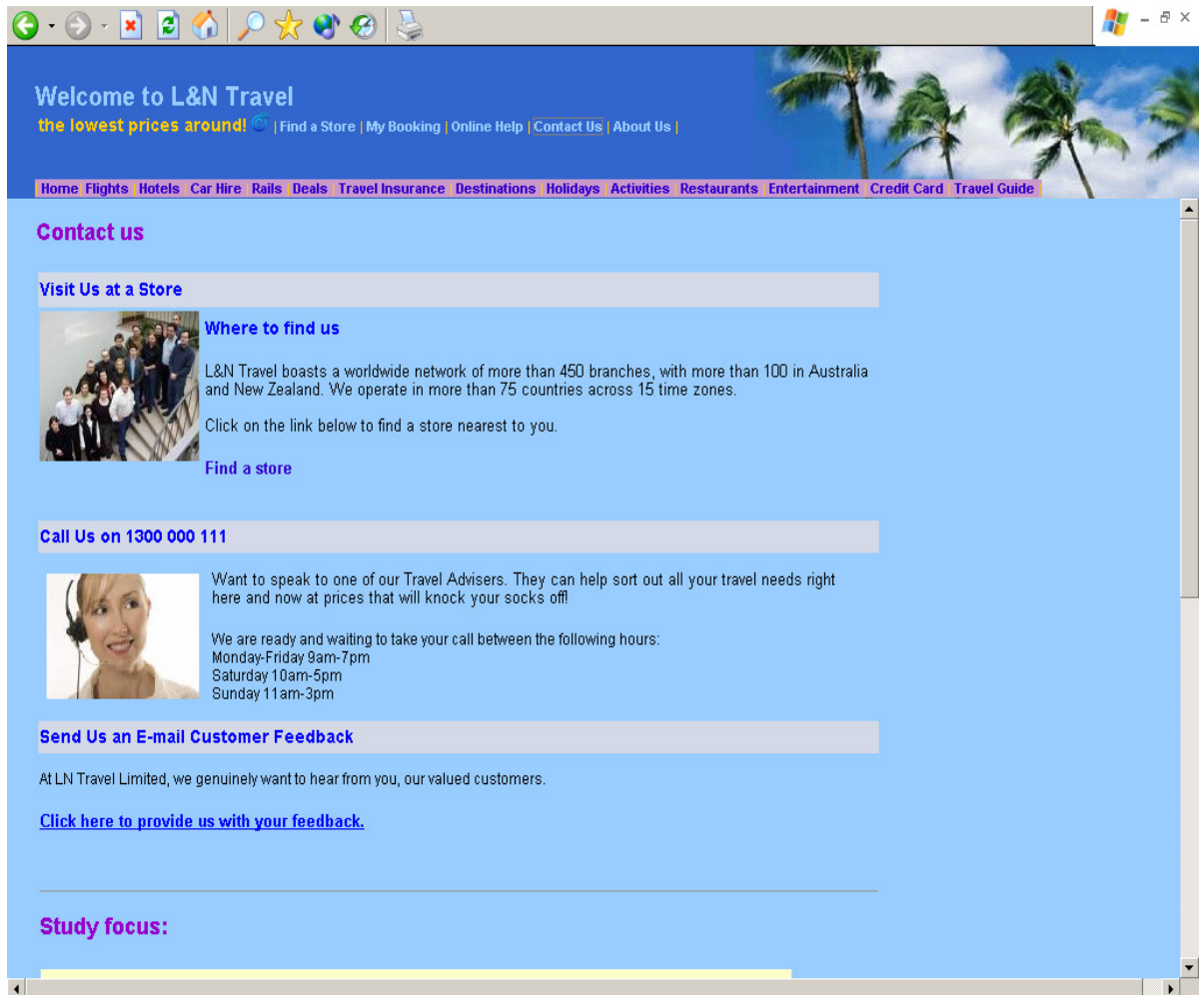
Figure 3.10 'Contact Us' Page Presenting the Greater *Offline* Services Condition
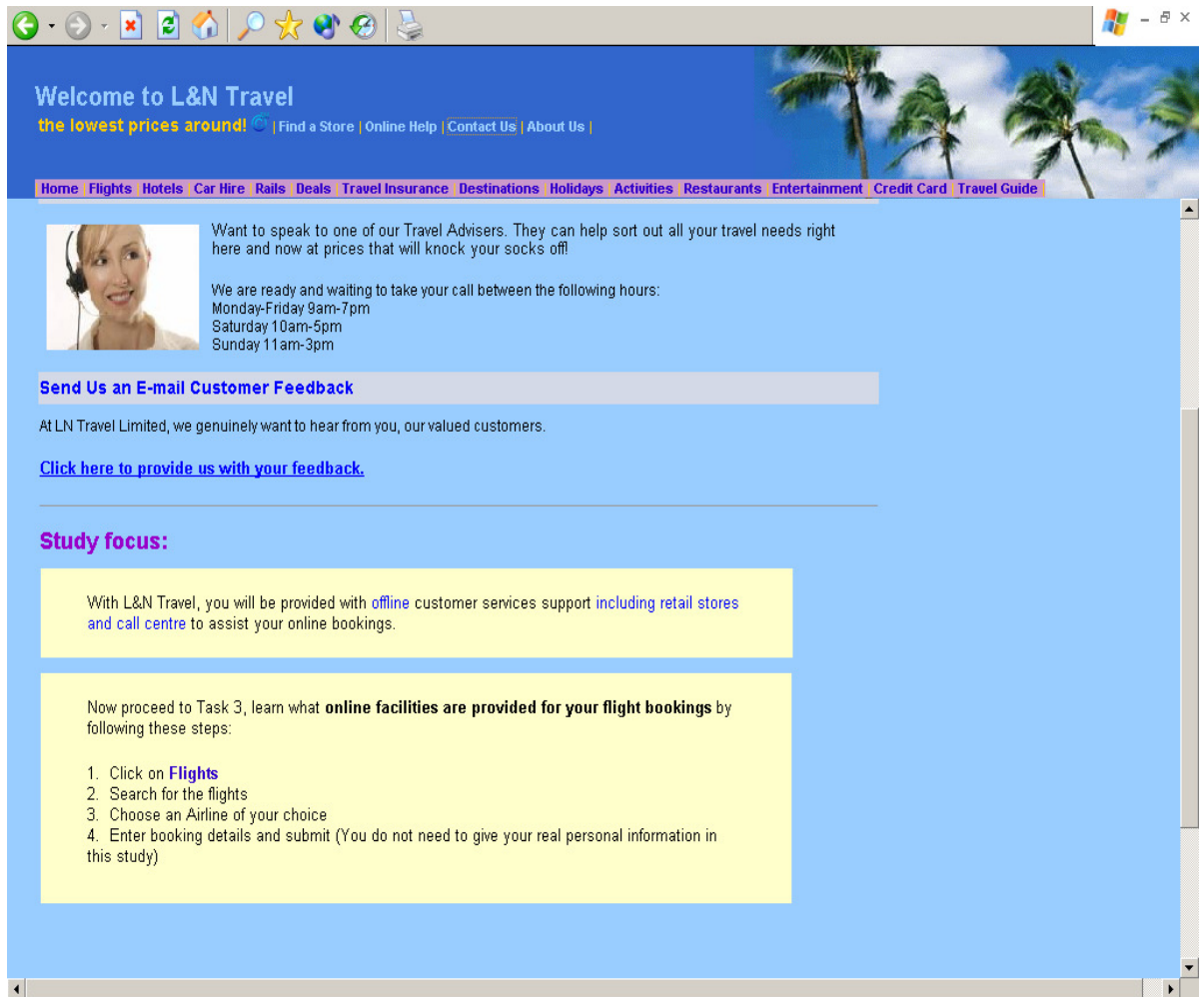
Figure 3.10 (Continued)

For the limited *offline* services condition, the 'Contact Us' page showed only two ways to contact the company: telephone the call centre or email the company. There are no physical stores available for customers. At the end of the page, a summary message of the manipulation conditions was also presented to the participants as shown in Figure 3.11.
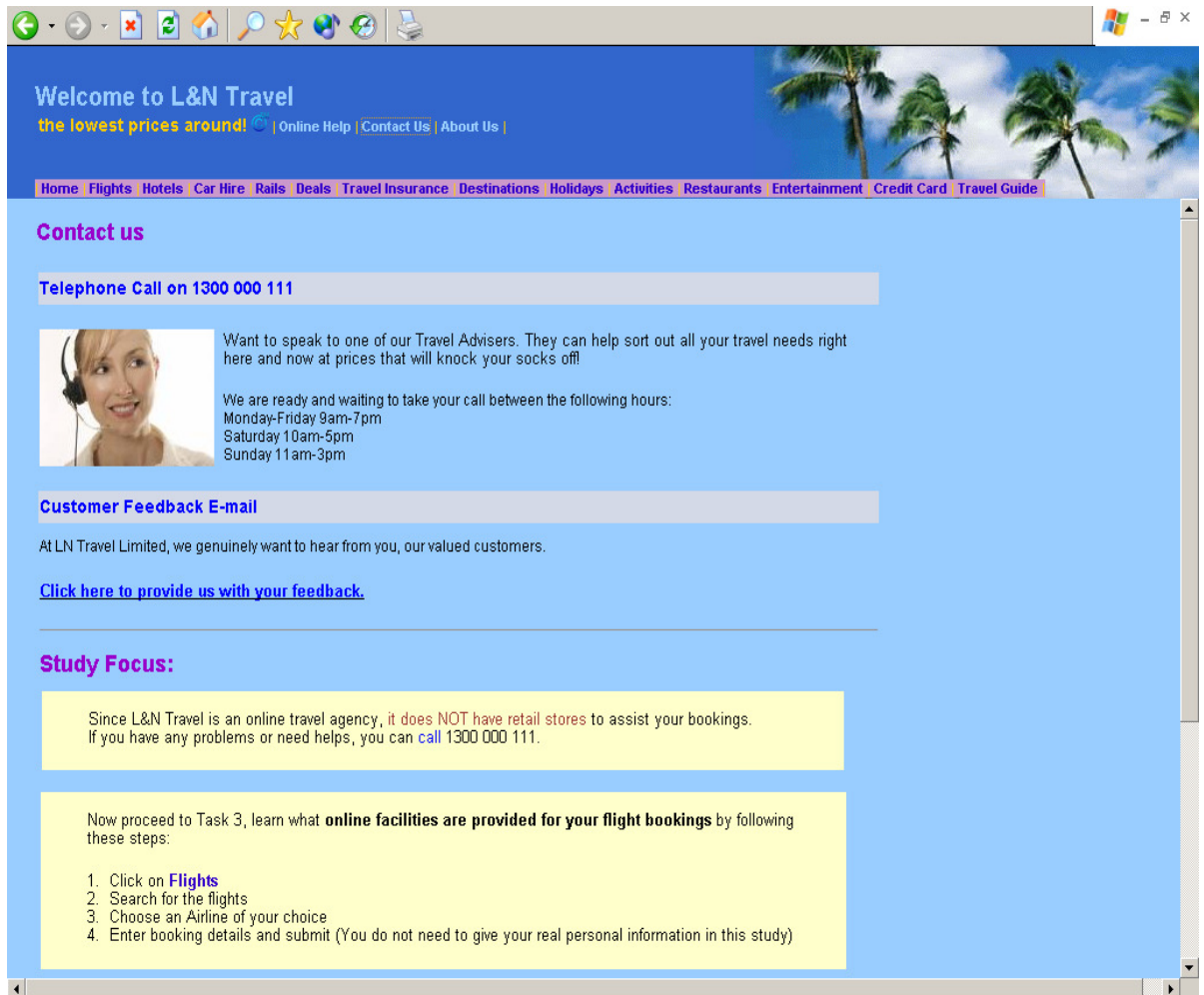
Figure 3.11 'Contact Us' Page Presenting the Limited *Offline* Services Condition

Sixteen hypothetical travel websites were created following conditions as designed in Table 3.2. All 16 manipulated hypothetical travel websites and the information created in this study can be accessed in the CD-ROM attached as Appendix H.

Since the treatment stimuli were presented using the interactive online travel websites, the questionnaire in Experiment Two was modified to correspond to the interactive online travel websites as described in the next section.

B.2 Questionnaire Design: Experiment Two

The questionnaire used in Experiment Two was modified from Experiment One. The example of the questionnaire used for website #1 is shown in Appendix I. The questionnaire consisted of two sections. In the first section, participants were asked to describe their online shopping experience and indicate their online shopping motivations and beliefs about risk entailed in Internet shopping. In Experiment Two, questions about subjects' online shopping experiences were moved to section one in order to evaluate their previous experience online before they browsed their assigned experimental website.

In section two of the questionnaire, the scenario and instructions were also modified. The scenario was based on booking a holiday to Phuket, Thailand with a friend for travel during the period 1-8 December 2007, with a $5000 budget for the trip. Subjects were instructed to read through the scenario background information and the four tasks. After reading through the four tasks, they were randomly assigned one of the 16 hypothetical travel websites and asked to access the website by typing the link given in the questionnaire. They were also instructed to complete the four given tasks before responding to the questions in section two. Details of each task are presented below.

In task one, participants were instructed to read through the 'About Us' page to learn about the company offerings, including online facilities, products and services, and offline facilities. This page was presented first because it provided an overview of all the manipulation conditions to the subjects before going to each condition separately. This page acted as a guide for subjects to learn about what products and/or services were offered by the company. This page was similar to the paper-based information presented to the subjects. At the end of this page were instructions about and a link to the next task

to facilitate the subjects to click through. A sample 'About Us' page created in the study is shown in Figure 3.12. Figure 3.12 illustrates the manipulated conditions in website #1 which was the same as that presented in the paper-based experiment in order to provide an overview of all manipulation conditions to the subjects.
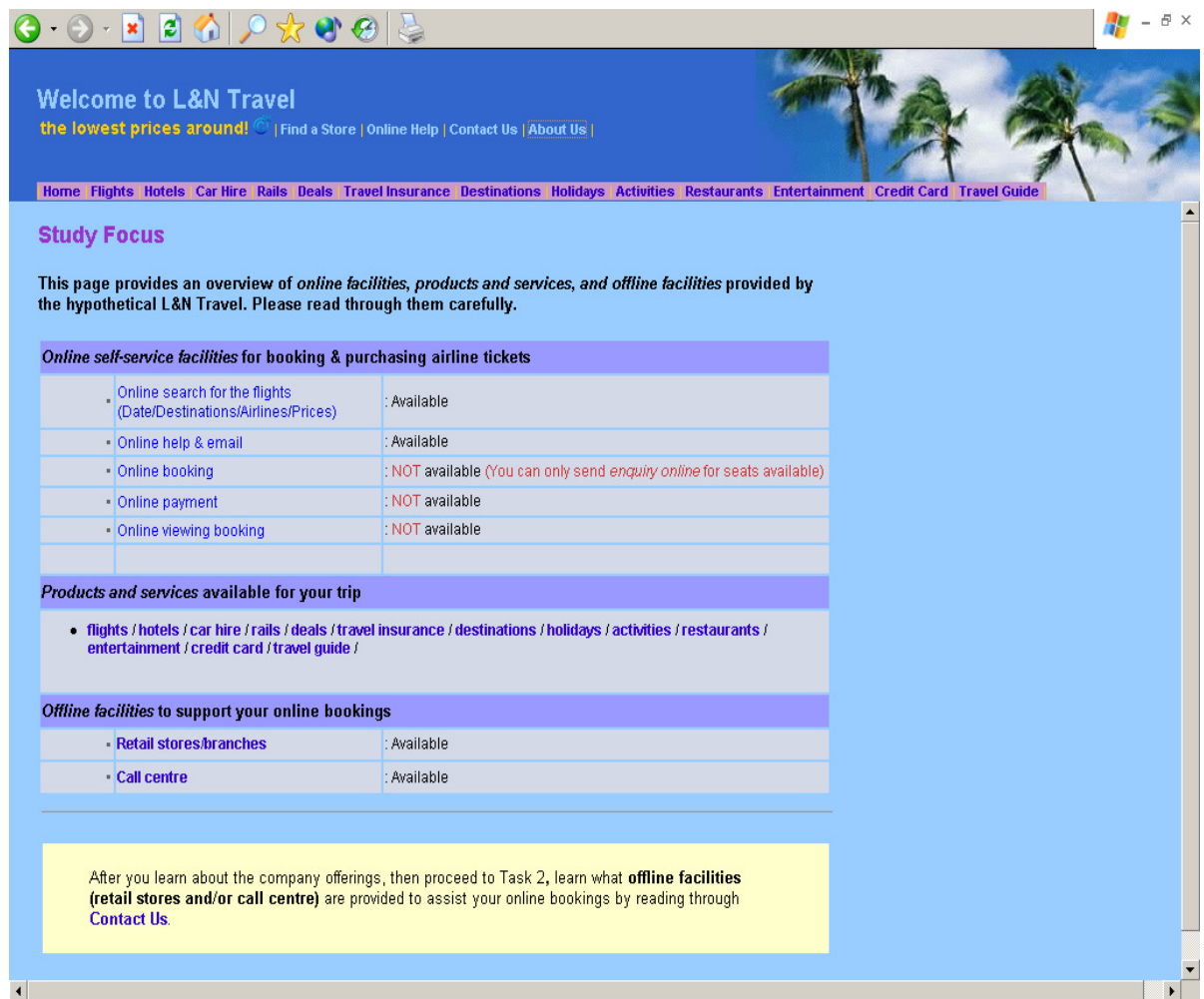
Figure 3.12 'About Us' Page Created for Experimental Website #1

In task two, subjects were instructed to read through the 'Contact Us' page to learn about what offline facilities (retail stores and/or call centres) were provided to support online bookings if subjects were to have any problems related to their trip or needed to talk with sales personnel. At the end of the page, instructions about and link to

the next task were provided to facilitate the subjects to click through. Samples of the 'Contact Us' pages created for this task is illustrated in Figure 3.10 (p. 127) for the **greater *offline*** services condition and Figure 3.11 (p. 129) for the **limited *offline*** services condition as described previously.

In task three, subjects were asked to book their airline tickets by clicking on 'Flights' and following the steps provided. The purpose of this task was to let subjects experience the online buying process and learn about the online facilities provided for flights booking. Additionally, the summary of online service facilities provided by the company was explicitly stated on this last page to ensure that subjects received the manipulated conditions. Also, at the end of the last page, instructions about and a link to the next task were provided to facilitate the subjects to click through. For a sample of the webpages created for this task see Figure 3.8 (a-d) (p. 119-122) for the **greater *online*** flight bookings services condition and Figure 3.9 (a-d) (p. 123-126) for the **limited *online*** flight bookings services condition as described previously.

In the final task, subjects were instructed to browse through other products and services offered by the company together with the flights by clicking through any products or services for their travel needs, such as hotels or car hire. The purpose of this task was to let subjects learn about the other products and services available for their trip. Subjects were also instructed to spend five to 10 minutes on this task. For example, in searching for a hotel, subjects were asked to browse for a hotel in Phuket by following the booking instructions provided in the hotels first page as shown in Figure 3.13.
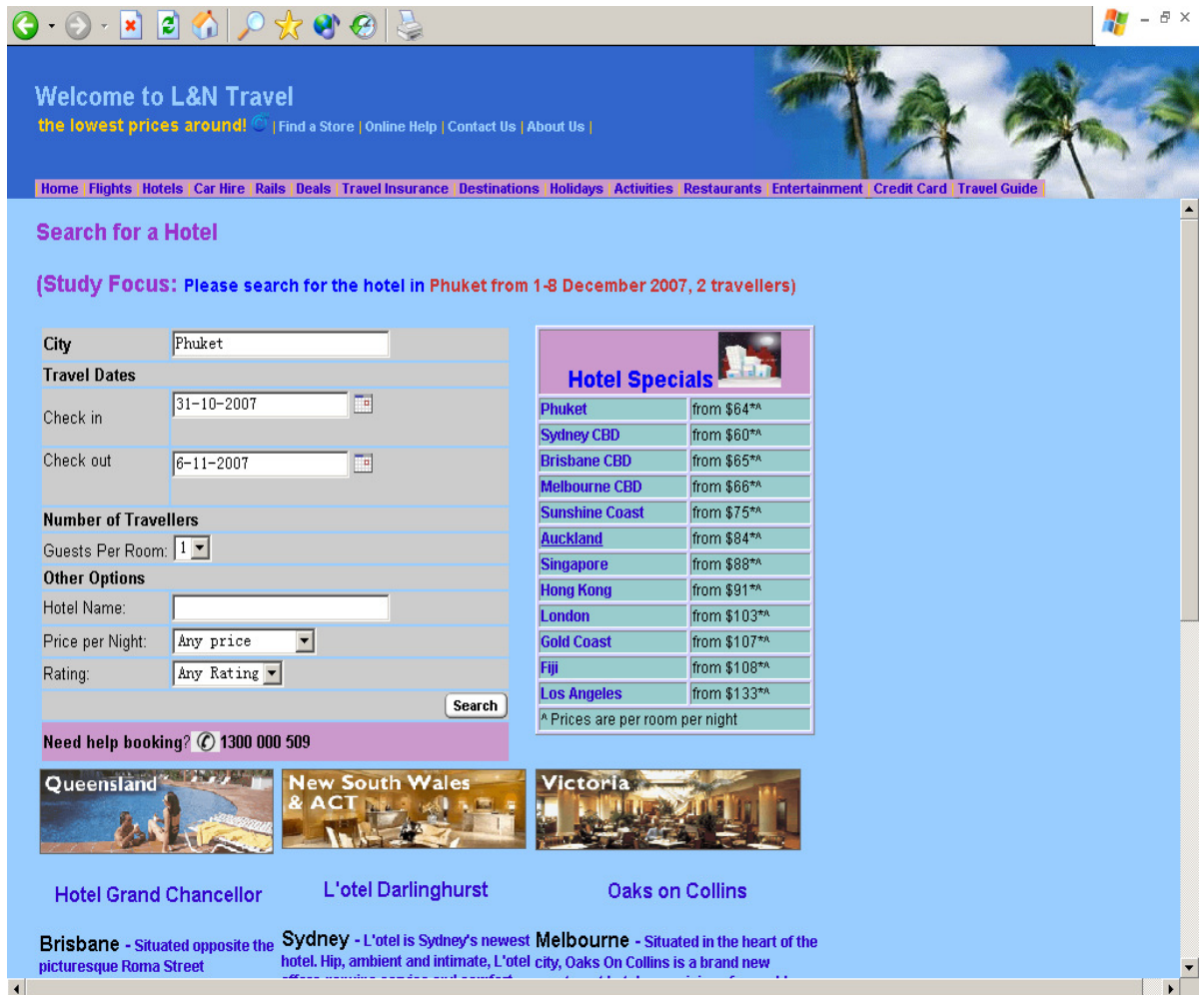
Figure 3.13 The Hotels First Page

The second page, Figure 3.14, shows the choice of hotels available in Phuket that can be booked online.

Figure 3.14 Choice of Hotels Page

Information about the selected hotel can be seen in Figure 3.15.
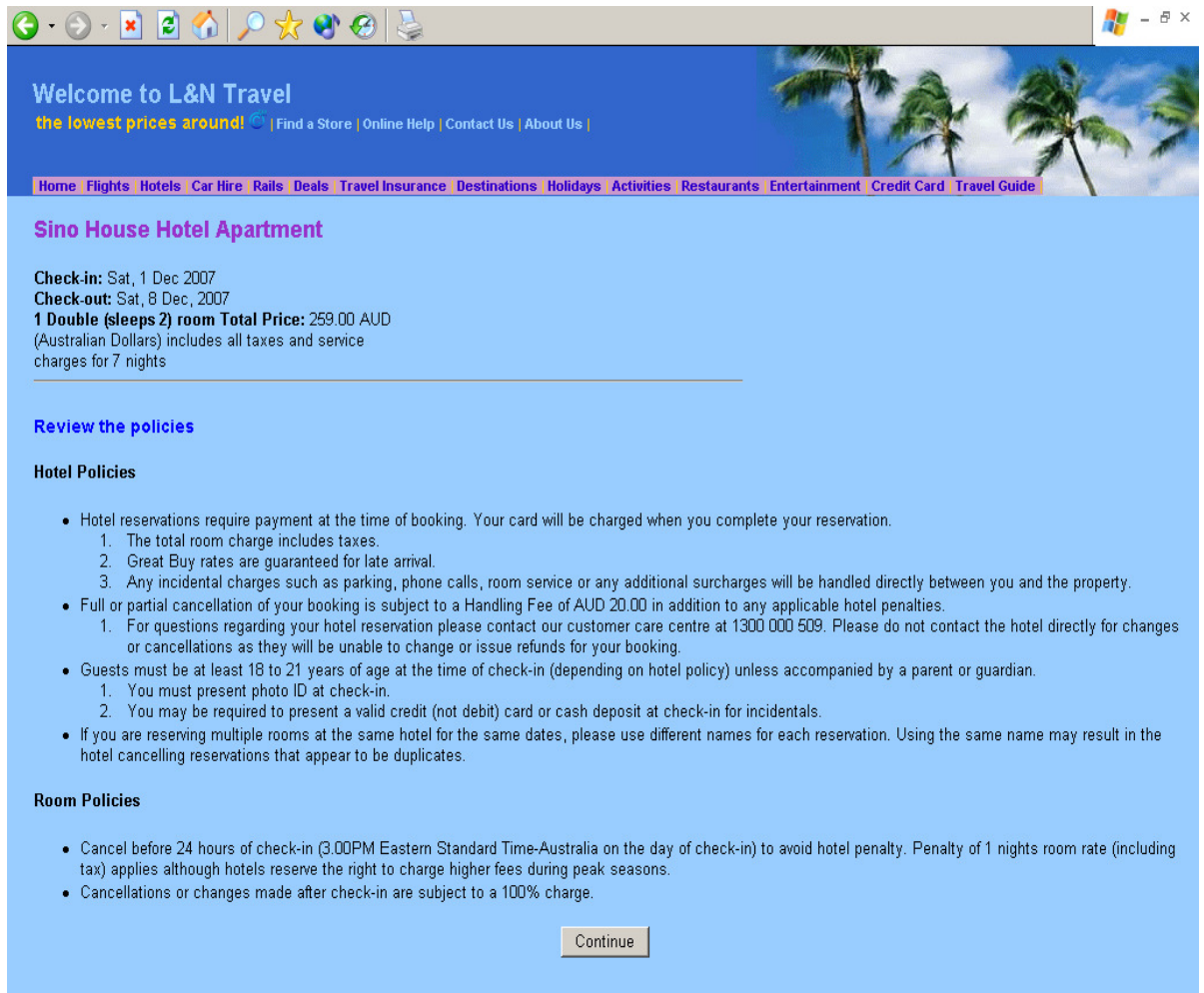
Figure 3.15 Sample of Hotels Information Page

In order to save subjects time throughout the booking process, the next page described the process of booking as usually followed in online booking to subjects who were told they did not need to perform the actual purchase in this study. Figure 3.16 shows the hotels final page.
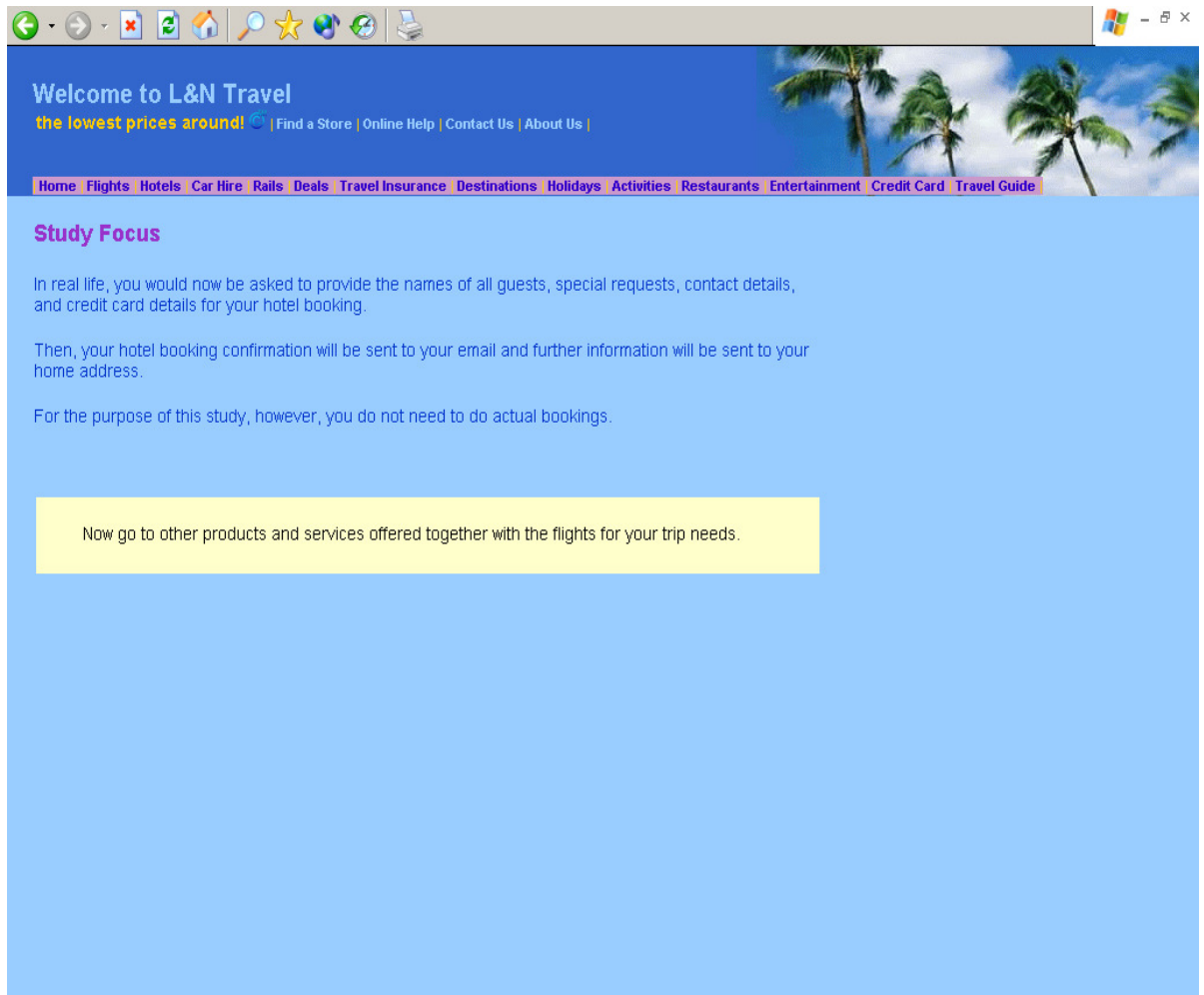
Figure 3.16 The Hotels Final Page

These tasks guided subjects to learn more about the products and services offered by the hypothetical travel websites as well as the process of acquiring airline tickets that were manipulated. Then they were asked to evaluate the hypothetical website according to the offers provided. They were also asked about their future interest in the services provided. At the end of the questionnaire, subjects were asked to provide some basic background information about themselves including gender, age, occupation, ethnicity, and income.

Before subjects were shown the questionnaire, a qualifying statement about their experiences in purchasing products and services over the Internet was announced by the researcher and presented on the cover page in order to identify qualifying subjects. The questionnaire used for each website was identical except for the number of the website that was randomly assigned to each subject.

B.3 Measures of Dependent Variables

The measures of the dependent variables—perceived value and behavioural outcome scale measurements—in Experiment Two were also modified from Experiment One. This is because the interactive website allowed subjects to access travel information, pictures, and prices of products or services in more detail. The customers' perceived value scales measurements were modified to incorporate both monetary and non-monetary value. Moreover, the usage intention scale measurement was modified to incorporate other behavioural outcomes, including likelihood to search, to say positive things, to revisit, to recommend, and to purchase. The construct measurements used in Experiment Two were as follows.

Customer-Perceived Value (*Value*)

Customer-perceived value of complementary products and services offered by an e-business was operationalised as both monetary and non-monetary values. Customer-perceived value was derived from a trade-off between the benefits and sacrifices of shopping at a hypothetical website. The scale items used to measure the *Value* construct are shown in Appendix J**.** Items one, two, four, six and seven were adapted from Kim (2004), items three and five were used for the first time here, and item eight was adapted from Parasuraman et al. (2005). The subjects were asked to rate each item using a seven-

point Likert scale where (1) corresponds to 'Strongly Disagree' and (7) corresponds to 'Strongly Agree'.

Behavioural Intention *(BI)*

Behavioural intention represents the subject's intention to search for, have positive comments about, recommend, visit, and purchase products and services provided by the hypothetical online travel agency if s/he were to purchase airline tickets and other travel products and services for his/her travel plans. The scale items used to measure the construct *BI* were adapted from Kim (2004) as shown in Appendix J. The subjects were asked to rate each item using a seven-point Likert scale where (1) corresponds to 'Highly Unlikely' and (7) corresponds to 'Highly Likely'.

Besides data-collection procedures, the sample plan and sample size were also modified in Experiment Two, the details of which are presented next.

B.4 Sampling Design

In Experiment Two, not only purposive samples but also snowball samples were employed for data collection. The researcher deliberately recruited RMIT University postgraduate students who had previously purchased any products or services via the Internet but were not recruited for Experiment One. Furthermore, an email snowball sample was sent to friends who had purchased any products or services via the Internet. These people were surveyed because their Internet shopping experience and actual online purchasing were considered to be useful to provide insights related to the consumer value of products or services offered by an e-business. However, the sample is not representative of the population (Churchill & Iacobucci 2005) and the results can not be generalised for the population (Sekaran 2003).

Not only was the sample design for data collection modified in Experiment Two, but sample size was also recalculated to increase the power of the study.

B.5 Sample Size

Samples used in Experiment Two were increased in order to increase the power of the experiment. A power analysis is a useful tool to calculate the necessary number of subjects needed in a study to detect any effects that result from the independent variable, given (a) the size of the effect of these variables in the population, (b) the type of statistic tests to be utilised, and (c) the level of significance of the study (Keppel 1991; Rudestam & Newton 2007).

In determining the sample size in the experimental design, Keppel (1991) suggests calculating from the relationships of three factors, namely, the significance level alpha (α), the magnitude or size of the treatment effects (ω^2), and the power of an experiment. The α level is normally set at p = .05 as effectively fixed by most researchers in the behavioural sciences and the effect size is frequently assumed to be as large as possible [ω^2 = .01 (small); ω^2 = .06 (medium); ω^2 = .15 (large)]. The actual power levels are rarely known. However, a power of .80 is judged to be adequate and is the desired level for power analysis (Murphy & Myors 2003). Also, a power of .80 is considered to be a reasonable and realistic value for research in behavioural science (Cohen 1977; Hinkle & Oliver 1983; Kirk 1995). A power of .80 means that there is an 80% chance of rejecting the null hypothesis (with an alpha = .05) and that success (reject the null) is four times as likely as failure (Keppel 1991; Murphy & Myors 2003). This power of .80 is also realistic in obtaining the sample size required because, as the power

increases to .90 or higher, the required sample size increases sharply as shown in Table 3.11.

Table 3.11 Sample Size Calculation Table

EFFECT SIZE (ω^2)	POWER								
	.10	**.20**	**.30**	**.40**	**.50**	**.60**	**.70**	**.80**	**.90**
$\alpha = .05$									
.01	21	53	83	113	144	179	219	271	354
.06	5	10	14	19	24	30	36	44	57
.15	3	5	6	8	10	12	14	17	22
$\alpha = .01$									
.01	70	116	156	195	232	274	323	385	478
.06	13	20	26	32	38	45	53	62	77
.15	6	8	11	13	15	18	20	24	29

Source: Keppel 1991, p. 72

In this study, therefore, following the research norms in the behavioural sciences, the alpha was set as .05, expected effect size = .15 (large), and the power = .08, so that the sample size thus needed is 17 subjects per cell or condition (see Table 3.11), giving a total of 272 subjects.

B.6 Pretest

The questionnaire used in Experiment Two was pretested with another 16 postgraduate students, one for each profile, using personal interviews to gain insight into the clarification of the questionnaire and the realism of the experimental websites, as well as whether the time spent completing the survey was appropriate. Each subject was randomly assigned to a questionnaire that contained two sections as described above. The subjects took between 20 and 25 minutes to complete the questionnaire and browse the website. After subjects completed the questionnaire, they were asked whether they understood the instructions, scale items, product and service descriptions, as well as the look and feel of the website. No major misunderstandings were found and the website

contained sufficient information for the purpose of this study. However, the instructions on the website were slightly modified based on the pretest. For example, the instructions for booking airline tickets task were modified by adding steps to make this activity easier. Furthermore, a message informing subjects that they do not need to provide their real personal information was added in this activity. This is because some subjects felt uncomfortable providing their real personal information, especially credit card details. Additionally, the sequence of tasks was rearranged in order of importance of the task and the time needed to complete the activity. For example, task one, 'Read through "About Us" page', was presented first because it provided an overview of the manipulation variables used in this study. Task four, 'Learn what other products and services are offered with airline tickets', was presented last because it required approximately five to 10 minutes to complete the activity.

Moreover, the website was modified given the time available by adding more photos, information, colours, and links to make it as similar to a real website as possible. For example, the 'products menu bar' at the top of the page was modified by the addition of colour to make it more interesting. Additionally, the products were arranged in one line, instead of two lines, to emphasise the range of products offered and make it similar to real websites.

The 'Contact Us' page was modified by the inclusion of photos of a call centre and staff at the branch to emphasise this information used in task two. Additionally, branch information was also added to make the website look more real, and colour was added to the 'About Us' page to emphasise the message delivered. Some other pages were also modified and rearranged, which included activities, entertainment, restaurants, and shopping pages. The majority of the changes involved adding colour to make the

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sites more attractive and look more like a real website. Links to other products, services, or information were also added in order to make it convenient to find these products or service or to find useful information. For example, a link to hotels and car hire was provided after booking airline tickets in a similar way to real websites. Further, instead of providing information, the links to 'Help information' or 'Other information' that followed the booking were placed in the right-hand column to reduce information overload on this page.

B.7 Main Study

Data from Experiment Two were collected by two methods: a paper-and-pen based survey; and a web survey using the modified questionnaire and the interactive hypothetical travel website. The paper-and-pen based survey was conducted between 29 July and 13 October 2007. One-hundred and eighty-seven postgraduate business students at RMIT University were recruited from various classes who were willing to participate in the survey. The researcher verbally described the purpose of the study and the data-collection procedure to the potential participants. They were also told that the survey would be conducted in a computer lab during lunchtime, with a light lunch provided. When subjects arrived at the computer lab, they were randomly assigned to and shown one of the 16 treatment websites. They were first asked to fill out the questionnaire in section one before browsing the website. Then they were asked to read through the scenario background information and the four tasks in section two and to type the link to the experimental stimulus website provided and complete the four tasks. After completing the four tasks, subjects were asked to fill out the questionnaire in section two.

At the same time, a web survey was employed to collect data from friends who had experienced purchasing products over the Internet, using a snowball sample. The invitation letter to participate in the research survey was sent to 16 friends via their email at the starting point (see Appendix K). They were then invited to participate in the survey if they had purchased any products or services over the Internet. Each friend was randomly assigned one of the 16 experimental websites. The URL address of the web survey was provided at the end of the invitation letter if they were willing to participate in the survey. The web survey was developed using the same content as the paper-and-pen based survey and provided the link to click through to the experimental website. After completing the survey, subjects were asked to send an invitation letter to their friends, and to ask their friends to send the email in turn to their friends.

The web survey was uploaded to the RMIT School of Business Information Technology website from 30 August to 20 October 2007. Since this study had 16 treatment conditions, there were 16 different URLs, one for each condition, running from *http://www.rmit.edu.au/bus/bit/otss1* to *http://www.rmit.edu.au/bus/bit/otss16*. Ninety responses were received from the web survey. In order to equalise the number of subjects in each treatment condition, five responses that were over the limit were randomly discarded. Therefore, 85 web responses were used together with 187 paper-and-pen responses for further analysis.

Besides using the experimental study, a qualitative method using personal interviews was also conducted in this study. Qualitative methods are useful for gaining a deeper understanding about behaviour, in this case online shopping behaviour (Parasuraman & Zinkhan 2002). The details of these personal interviews are presented in the following section.

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3.3 Phase II—Face-to-Face Interviews

To increase the validity of the results of the quantitative analysis, triangulation was achieved via face-to-face interviews conducted by the researcher to generate insights into customers' decision-making behaviour when shopping for travel products online, and to seek out new or deeper dimensions of the study (Jick 1979; Leedy & Ormrod 2005; Neuman 2006). A face-to-face interview allows probing via open-ended questions, clarification of ambiguous questions, and easy use of visuals and other sensory stimuli (Churchill & Iacobucci 2005), as well as follow-up information (Leedy & Ormrod 2005). The following sections describe the face-to-face interview procedure including details of participants, interview questions, interview procedures and data analysis.

3.3.1 Participants

The participants interviewed were academic staff from the School of Business Information Technology and postgraduate research students at RMIT University, who had experience in purchasing travel products over the Internet. Interviews were conducted with five males and five females. They were purposively selected by the researcher as interviewees since their experience in online shopping was considered to be suitable for providing useful information for this study (Creswell 1998).

3.3.2 Interview Questions

The interview questions in this study were semi-structured and open-ended, enabling the researcher to supplement the standard questions with one or more individually tailored questions to gain further clarification or to probe a person's reasoning (Leedy & Ormrod 2005). This technique is flexible, allowing the conversation to flow where it needs while also allowing the interviewee to express their opinions,

concerns and feelings through discussion (Nauman 2006). Since it is flexible, every interview can be different to the others.

In this study, a series of open-ended interview question protocols were set to understand online shopping behaviour as shown in Appendix L. The interview questions were developed to uncover the reasons behind consumers' choice of airlines and other travel products as well as the criteria used to choose travel websites to purchase travel products online using the results of Experiment Two as guidelines. Additionally, the final question asked the interviewees to suggest the products or services that s/he would expect from a travel website. These predetermined questions helped guide the interviewer through the interview process in a systematic and consistent manner (Berg 1998). Additionally, the open-ended questions allowed interviewees to reply freely using their own words rather than choosing from a limited set of alternatives. Moreover, open-ended questions are often used to probe for additional information (Churchill & Iacobucci 2005).

3.3.3 Interview Procedures

Potential interviewees were contacted by the researcher via email and personal face-to-face contact to invite them to participate in the interview. In this initial contact, the interview purpose, background information, and instructions for the interview exercise were provided (see Appendix M), as well as a list of the questions to be asked in the interview (see Appendix L). If potential interviewees were interested in taking part, a time and place for the interview was set. All interviews took place privately in a postgraduate room or in the interviewees' office. The interviewee was introduced to the purpose of the study and assured about confidentiality of any information they would

provide for this study. The interviewee was given a scenario sheet and was asked to read through background information and instructions for the interview exercise. The interviewee was told to assume that s/he was going for a holiday in Phuket, Thailand, and looking for airline tickets and other products and services for her or his travel needs from a travel website. The interviewee was instructed to book airline tickets and browse through other products and services offered together with the flights. The interviewee was asked to access the given hypothetical travel website, the L&N travel website #9, by typing the link provided in the instructions and to complete the two tasks as requested. Website #9 was used in the interview procedure because it contained a large number of travel products and services that would cover basic and additional needs for the trip. An interview script was used, consisting of a set of questions as a starting point to guide the interaction, as shown in Appendix L. During the exercise, the interviewee was asked to respond to questions related to the activity that s/he was performing, including purchasing criteria, travel products/services selection criteria, and website evaluation criteria. Supplementary questions were added to clarify and expand on the points raised. With the permission of each interviewee, all interviews were audiotape-recorded first and then transcribed by the researcher. Each interview lasted from between half an hour to one hour. The interviews were conducted during the period 3-13 November 2007.

3.3.4 Qualitative Data Analysis

Data from the interviews were transcribed and analysed by the researcher. A major step in analysing qualitative data is coding the data into meaningful categories (Instructional Assessment Resources 2007) that involves identifying and describing themes, patterns, or concepts and then organising them into meaningful categories to

understand and explain these patterns or themes (Bogdan & Biklen 2003; Powell & Renner 2003).

In developing coding categories, Bogdan and Biklin (2003) suggest that first interview transcripts and other information should be ordered chronologically or by some other criteria. Next, numerous category codes can be generated, as many as possible, by labelling data that are related (Bogdan & Biklin 2003) using differently coloured dots to place on the interview transcript or to underline passages with differently coloured highlighting pens (Marshall & Rossman 2006). Listed ideas or relationship diagrams can then be compiled by eliminating, combining, or subdividing coding categories and looking for repeating ideas and larger themes that connect codes (Bogdan & Biklin 2003).

Qualitative data can be analysed by using computer software that is widely available, for example, Atlas.ti, NVivo and XSight (Instructional Assessment Resources 2007). These software packages are useful for handling a large amount of qualitative data (for example, more than 500 pages of transcription) (Creswell 2007) and to facilitate systematic, efficient coding and complex analyses (Instructional Assessment Resources 2007). Software programs can help with coding interview data, understanding conceptual relationships, or counting key words (Instructional Assessment Resources 2007) as well as locating quotations and multiple perspectives on a category or themes (Creswell 2007).

Since the interviews dealt with a small data set of 10 interviewees, data were analysed by hand using systematic categorising and labelling as described above to find the criteria used when making decisions or evaluations about a website. For each

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question, common themes or concepts were identified by grouping units of meaning (i.e. phrases or sentences encompassing one idea in an answer to a question). Key patterns or relationships of themes which emerged from the data were then organised and interpreted into meaning categories.

3.4 Summary

This chapter has described the methodology used in this study. Two methods were employed: experimental design and personal interviews. First, the experiment was designed using a 2 x 2 x 2 x 2 between-subjects factorial design of four independent variables: 2 product *component* (closely related and mixed-related) x 2 product *range* (wide and narrow) x 2 *online* (greater and limited) x 2 *offline* (greater and limited). This design made it possible to examine the effects of the four main factors and their interactions simultaneously on customers' perceived value as proposed in the study. Two types of non-probability samples were used to recruit participants: judgment and email snowball samples. One-hundred and eighty-seven postgraduate business students at RMIT University and 85 others, who had purchased products or services via the Internet, participated in the study. Subjects were randomly assigned one of 16 treatment conditions: hypothetical travel websites. Data were analysed using four-way analysis of variance (four-way ANOVA) to detect the effects of treatment variables on value perception. Additionally, regression analysis was used to determine the relationships between customers' perceived value and behavioural intentions.

Second, face-to-face interviews were included in this study to understand customers' decision-making behaviour when shopping online. Participants were recruited from among academic staff of the School of Business Information Technology and

postgraduate business research students at RMIT University. A travel scenario was outlined for the subject during the interview process. Data were analysed using systematic categorising and labelling to find the criteria used for decision-making and website evaluation.

In the following two chapters, the experimental and interview results are presented.

Chapter 4

EXPERIMENTAL RESULTS

4.1 Introduction

This chapter presents the results of Experiment Two in investigating consumers' perceived value of complementary products and/or services offered by travel websites created for this study using the scenario of travel to Phuket, Thailand. Data from Experiment Two are analysed using: descriptive statistics, an analysis of variance (ANOVA), and a regression analysis, as described in Chapter 3.B.6. Descriptive statistics were used to describe each variable including demographics, previous experience with travel products or services purchasing, Internet shopping motivation, and beliefs about the risks of Internet shopping. Additionally, validity and reliability assessment of consumers' perceived value and behavioural intentions were also examined using Principal Component Analysis and Cronbach's standardized Alpha. Furthermore, assumptions of ANOVA were validated before performing further analysis.

In the subsequent sections, the hypotheses proposed in this study were tested. The effects of the four main factors and their interaction on customers' perceived value hypotheses (H1-H15) were tested using four-way ANOVA. Moreover, to determine the relationship between customers' perceived value and behavioural intentions as proposed in Hypothesis 16, regression analysis was performed. These results will assist in answering the research question 'What is the value of complementary products and services in e-business?' The following sections present the findings.

4.2 Information about the Sample

The following sections report the basic information about the subjects who participated in Experiment Two: demographic profiles, previous experience in Internet purchasing, Internet shopping motivation, and beliefs about the risks of Internet shopping.

4.2.1 Demographic Profiles of Subjects

A total of 272 subjects participated in the second research experiment. This provided 17 subjects per cell or treatment condition as described in Chapter 3.B.5. Males constituted 60.3% of the sample and the remaining 39.7% were female. In regards to the age of subjects, the majority of subjects were aged between 26 and 35 (40.8%) and between 18 and 25 (34.2%). Almost 18% were aged between 36 and 45. There were approximately 7% whose age was greater than 45 years.

Of the 272 subjects, almost half (48.5%) were full-time postgraduate students, approximately 21% were part-time postgraduate students, and almost 30% were non-students. More than half (58.5%) were Asian, approximately 39% were Caucasian, and 2.6% were of African or Middle Eastern origin. Table 4.1 summarises the demographic details of the subjects.

Table 4.1 Demographic Characteristics of the Subjects (*n* = 272)

Variable	Description	Frequency	Per cent (%)
Gender	Female	108	39.7
	Male	164	60.3
Age	18 – 25	93	34.2
	26 – 35	111	40.8
	36 – 45	48	17.6
	46 – 55	14	5.1
	55 & Older	6	2.2
Status	Full-time postgraduate student	132	48.5
	Part-time postgraduate student	62	22.8
	Non-student	78	28.7
Ethnicity	Asian	159	58.5
	Oceanic	64	23.5
	European	30	11.0
	American	9	3.3
	Canadian	2	0.7
	Hispanic	1	0.4
	African & Middle Eastern	7	2.6

4.2.2 Previous Experience in Internet Purchasing

The prior Internet purchasing experience of subjects with regards to travel products and services is presented in Table 4.2. Of the 272 subjects, approximately 45% stated that they had been purchasing products or services over the Internet for more than three years. Subjects who had experience in purchasing products or services over the Internet for less than two years comprised 42%. The rest of the subjects who had experience in purchasing products or services over the Internet had done so for between two and three years (12.5%).

In relation to experience in purchasing airline tickets over the Internet, 193 (71%) of subjects reported that they had purchased airline tickets over the Internet. Of these, 43% had been purchasing airline tickets over the Internet for less than two years. 37.3%

stated that they had been purchasing airline tickets over the Internet for more than three years. Almost 20% had been purchasing airline tickets over the Internet for between two and three years.

Of the subjects who had purchased airline tickets over the Internet, almost 50% had purchased tickets less than four times, while the other half of subjects had purchased tickets more than four times. The median purchasing experience was between two and four times (33.2%), followed by more than 10 times (30.1%).

Subjects also had a high level of experience in purchasing travel-related products online. Hotel reservations were the most frequently purchased product (66.2%), followed by holidays (43%) and rental car reservations (34.2%). Other travel-related products most often booked online included restaurants (29%), activities (28.3%), travel insurance (22%), and rail travel (18%).

The top three online purchasing products or services reported by subjects were gifts and shopping (70.2%), hotels (66.2%), and entertainment (60.7%). Conversely, the bottom three were cruises (7.7%), gambling (9.9%), and others—including car insurance, clothes, wine, vitamins, and antiques (11.5%). Subjects' previous online purchasing experiences are presented in Table 4.2.

Table 4.2 Experience with Internet Shopping (*n* = 272)

Variable	Description	Frequency	Per cent (%)
Length of online purchasing experience	Less than a year	58	21.3
	1-2 years	57	21.0
	2-3 years	34	12.5
	3-4 years	35	12.9
	More than 4 years	88	32.4
Experience in purchasing airline tickets	Yes	193	71.0
	No	79	29.0
Length of purchasing airline tickets (*n* = 193)	Less than a year	41	21.2
	1-2 years	42	21.8
	2-3 years	38	19.7
	3-4 years	26	13.5
	More than 4 years	46	23.8
Frequency of purchasing airline tickets (*n* = 193)	Less than 2	32	16.6
	2 - 4	64	33.2
	5 – 7	29	15.0
	8 – 10	10	5.2
	More than 10	58	30.1
Experience in purchasing/booking/using: [a]			
- Hotels		180	66.2
- Car hire		93	34.2
- Cruises		21	7.7
- Rail (such as Eurail Global Pass)		49	18.0
- Travel insurance		60	22.1
- Holidays		117	43.0
- Gifts & Shopping (such as CDs, DVDs, books and maps, luggage)		191	70.2
- Money Services (such as loan, car insurance, home insurance)		76	27.9
- Credit Card Services (such as obtaining a credit card via the Internet)		100	36.8
- Entertainment (such as concert and shows, festivals, museums)		165	60.7
- Activities (such as beaches, diving, wine tours, horse riding)		77	28.3
- Restaurants		79	29.0
- Gambling (such as casino and poker, lotto tickets, bingo)		27	9.9
- Auctions (such as hotel, holiday, art gallery auctions)		75	26.0
- Others		32	11.8

Note. [a] Multiple responses allowed.

4.2.3 Internet Shopping Motivation

Subjects' Internet shopping motivation was examined to understand the reasons underlying their Internet shopping. Marketing literature has categorised consumers' shopping value into two components: utilitarian and hedonic values (see for example Babin et al. 1994; Hirschman & Holbrook 1982, Lesser & Kamal, 1991). Utilitarian shopping value is related to task-related or rational shopping behaviour, and results from the conscious pursuit of a particular shopping outcome. Consumers with utilitarian shopping values describe shopping as a work-oriented task and evaluate shopping as an accomplishment and/or disappointment in relation to the ability to complete the shopping task or the merits of the acquired goods and services (Babin et al. 1994). In contrast, hedonic shopping value involves the pursuit of the pure entertainment, enjoyment or excitement offered by the shopping experience. Consumers with a hedonic shopping value seek fun and playfulness from shopping more than a specific outcome and describe the purchase of goods as incidental to the experience of shopping (Babin et al. 1994; Hirschman & Holbrook 1982).

In this study, Internet shopping motivation was examined with four scale measurement items adapted from Lee and Littrell (2005). The four items of Internet shopping motivation were examined for validity to determine whether they included one or more factor dimensions. Additionally, reliability of the factor was examined. The results from the Principal Component Analysis with varimax rotation as shown in Table 4.3 revealed that the four items were loaded on two factors, utilitarian and hedonic shopping motivation, as found in Lee and Littrell's (2005) study.

Table 4.3 Results of Factor Analysis and Descriptive Statistics of Internet Shopping Motivation Scale

Items	Factor loading	Mean [a]	SD
Utilitarian:			
While shopping for products on the Internet, I try to find just the items I am looking for.	.899	5.05	1.694
I try to accomplish only what I want to when shopping for products on the Internet.	.886	4.94	1.530
Cronbach's *alpha* = .751			
Hedonic:			
I enjoy Internet shopping for its own sake, not just for the items I may purchase.	.874	3.99	1.640
Shopping for travel products on the Internet is fun.	.872	4.54	1.448
Cronbach's *alpha* =. 696			

Note. [a] Measure on a seven-point Likert-type scale, where 1 = Strongly Disagree and 7 = Strongly Agree.

Factor loadings of shopping motivation ranged between .872 and .899, which were greater than the acceptable cut-off point of .40 as suggested by Gefen and Straub (2000). Reliability coefficient estimates for the utilitarian and hedonic shopping motivation constructs were .751 and .696 respectively. The reliability level for each construct was in an acceptable range of .70 or higher (Peterson 1994). Therefore, these four scale items appeared to have an acceptable value of validity and reliability. A detailed description is presented in Table 4.3. Subjects in this study had a higher utilitarian shopping value, with a mean value ranging from 4.95 to 5.05 on a seven-point Likert-type scale, than a hedonic shopping value, which had a mean value ranging from 3.99 to 4.54.

4.2.4 Beliefs about the Risks of Internet Shopping

Perceived risk is defined as the subjective expectation of a loss (Stone & Gronhaug 1993). Key risks in an online shopping environment included in this study were: financial, performance, privacy, and time/convenience loss (Strader & Shaw 1999;

Forsythe & Shi 2003). *Financial risk* is defined as the probability of monetary loss resulting from purchasing a product, as a result of the product needing to be repaired, replaced or returned (Horton 1976). *Performance risk* refers to the loss incurred when a product fails to meet a consumer's expectations (Horton 1976; Simpson & Lakner 1993). *Privacy risk* is defined as the degree to which consumers confront a loss of privacy as a result of the information collected about them while they shop online (Jarvenpaa & Todd 1996-97). Customers may also perceive a privacy and security risk from using credit cards for payment over the Internet (Harrison-Walker 2002; Salisbury et al. 2001). Customers perceive a risk of credit card fraud and of loss of the privacy of their personal information while sending sensitive information over the Internet (Salisbury et al. 2001; Lee & Turban 2001; Liebermann & Stashevsky 2002). *Time/convenience risk* may refer to the loss of time and the inconvenience incurred owing to difficulties in navigating and/or submitting orders, finding appropriate websites, or delays receiving products (Forsythe & Shi 2003, p. 869). Additionally, online shoppers perceive a risk in the lack of physical contact, in a performance failure of the shopping medium, in the trustworthiness of the Internet retailer (not supplying the product purchased), and in the lack of human contact in Internet shopping (Liebermann & Stashevsky 2002).

In this study, subjects' general beliefs about risk in Internet shopping were examined with a four-item scale measurement adapted from Kim (2001). These four scale items of beliefs about risk in Internet shopping were checked for validity to determine whether they included one or more factor dimensions. Additionally, reliability of the factor was examined. Table 4.4 shows the results from the Principal Component Analysis with varimax rotation which revealed one component extract and labelled as beliefs about the risks of Internet shopping.

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Table 4.4 Results of Factor Analysis and Descriptive Statistics of Beliefs about the
Risks of Internet Shopping Scale

Items	Factor loading	Mean[a]	SD
There is a chance that if I purchase travel products or services (such as airline tickets, hotels, insurance etc.) from the Internet, the products may not be worth the money I paid.	.796	3.90	1.592
There is a chance that if I purchase travel products or services from the Internet there may be something wrong with the products or they may not meet my needs, desires, or expectations.	.850	4.36	1.556
There is a chance that if I purchase travel products or services from the Internet there may be the difficulty of navigation, submitting the order, potential delays receiving products, or changing products.	.767	4.34	1.503
There is a chance that if I purchase travel products or services from the Internet my information (e.g. credit card number, personal details) sent over the Internet may be accessed or shared without my knowledge.	.738	4.91	1.537
Cronbach's *alpha* = .797			

Note. [a] Measure on a seven-point Likert-type scale, where 1 = Strongly Disagree and 7 = Strongly Agree.

Factor loadings ranged between .738 and .850, which were above the acceptable cut-off value of 0.4 (Gefen & Straub 2000). Cronbach's alpha was .797, which is greater than the cut-off point of .70 (Peterson 1994). Therefore, these four scale items were considered to have high validity and reliability. The detailed description shown in Table 4.4 illustrates that subjects in this study believed that they are exposed to greater risk with privacy and security issues when shopping online (Mean = 4.91). In contrast they were less concerned about financial risk (Mean = 3.90).

4.3 Testing of the Dimensionalities of Constructs

The two dependent constructs used in this study—perceived value and behavioural intentions—were tested for construct validity and reliability before being used for further analysis.

4.3.1 Construct Validity

The construct validity set of items, including perceived value and behavioural intentions, were measured using exploratory factor analysis (EFA) with principal components analysis and promax (with Kaiser normalisation) rotation to determine whether multiple indicators for each variable included one or more factor dimensions (as described in Chapter 3.2.5). Results as shown in Table 4.5 revealed two factors that were consistent with the two dependent variables of perceived value and behavioural intentions. However, one item of perceived value had a factor loading lower than .40 and was cross-loaded with behavioural intentions. It was therefore dropped as suggested by Churchill (1979). The deleted item was an item 2—'It would require a great amount of effort to buy my airline tickets from this site'. Factor loadings for the remaining items were all positive, ranging from .547 to .918, above the cut-off value of 0.4 (Gefen et al. 2000).

Table 4.5 Results from Exploratory Factor Analysis (EFA) for Perceived Value and Behavioural Intentions

Factor	EFA loadings (after promax rotation)
Perceived value	
1. The site offers acceptable price ranges for the products and services.	.547
2. It would require a great amount of effort to buy my airline tickets from this site [a].	.355
3. The site gives me the flexibility of online and offline (retail store and/or call centre) services support.	.573
4. The site offers a shopping experience for travel products and services that would enable me to have a wide range of products and services to choose from.	.674
5. The site offers a shopping experience for travel products and services that would enable me to have the essential products and services needed for my trip.	.746
6. Overall, shopping from this site would save a lot of my time in acquiring products and services for my trip.	.724
7. Overall, shopping for travel products and services from this site would be very convenient.	.792
8. The overall value I get from this site for my money and effort is excellent.	.790

Cronbach's *alpha* = .819

Table 4.5 (Continued)

Factor	EFA loadings (after promax rotation)
Behavioural intentions	
If this travel website becomes available, how likely are you to:	
1. search for product information on this site?	.847
2. say positive things about this site to other people?	.871
3. recommend this site to your friends or family?	.918
4. visit this site again?	.897
5. purchase products/services available on this site?	.843
Cronbach's *alpha* = .927	

Note. Total variance extracted by the two factors = 57%.
[a] A reverse scale was used but was dropped because its factor loading was lower than .40 and was cross-loaded with behavioural intentions.

4.3.2 Reliability

The reliability of measurement was assessed by using Cronbach's *alpha* coefficient (Cronbach 1951) as shown in Table 4.5. The values of the reliability coefficient for perceived value and behavioural intentions were in an acceptable range of .819 and .927 respectively. These coefficient alphas were higher than the acceptable cut-off point of .70 (Peterson 1994). As a result, internal consistency appeared to be high.

Since the seven scale items of perceived value were loaded on the same component, the responses to these items were averaged to serve as a dependent variable, and labelled as overall perceived value. Similarly, the overall behavioural intention was calculated by averaging five scale items of subjects' behavioural intentions which then served as another dependent variable. The average values of these two dependent variables were then used for hypothesis testing.

4.4 Assumptions in ANOVA

The most critical assumptions relating to ANOVA are the independence of observations, homogeneity of the variance across the groups and normality, as described in Chapter 3.3.1.5.3. Each of these assumptions was examined with regards to customers' perceived value (dependent variable), as described below. Furthermore, outliers of customers' perceived value means are presented.

4.4.1 Independence of Observations

Assumptions of independence of subjects were met through the experimental design employed in this study. Each subject was randomly assigned to one of the treatment conditions, which ensured the necessary independence of observations (see Chapter 3.B.6).

4.4.2 Homogeneity of Variances

Homogeneity of variance in ANOVA assumes that variances in each cell are equal. This assumption was tested using Levene's test. If the Levene statistic is significant at the .05 level or better, the researcher rejects the null hypothesis which states that the groups have equal variances.

Levene's test of homogeneity of variances statistics are shown in Table 4.6. The results indicated that the variances of customers' perceived value were homogeneous. Statistics indicate non-significance at the .05 level, *Levene*(15, 272) = 1.389, *p* = .152. The error variance of customers' perceived value is equal across the groups. The data set met the assumption of homogeneity of variances.

Table 4.6 Levene's Test of Equality of Error Variances

Dependent Variable	F	$df1$	$df2$	p
Perceived Value	1.389	15	272	.152

Besides checking that the variance is the same among the groups, normality of the observations with each treatment group was also examined.

4.4.3 Normality Assumption

A normality assumption assumes that the values in each cell of the design are normally distributed. Each of the 16 cells of the 2 x 2 x 2 x 2 design was explored using SPSS by revising the VARIABLES subcommand as suggested by Becker (1999). Each of the factors: component, range, online and offline, was separated by the keyword **BY** (see Appendix N). The Shapiro-Wilks test and skewness and kurtosis statistics were used to examine the normality of the data sets as described below.

The Shapiro-Wilks statistical test of normality is shown in Table 4.7. The Shapiro-Wilks tests indicated that there was only one out of the 16 conditions, the 5th-row conditions, that showed a departure from normality. The Shapiro-Wilks (S-W) statistic is significant at the .05 level, S-W(18) = .836, p = .005. No significant departure from normality was found for the other conditions according to the S-W test.

Table 4.7 Tests of Normality of Mean Value of Customers' Perceived Value

	Component	*Range*	*Online*	*Offline*	Shapiro-Wilks		
					Statistic	df	*p*
Perceived Value	Mixed-related	Narrow	Limited	Limited	.941	17	.297
				Greater	.962	17	.646
			Greater	Limited	.970	17	.789
				Greater	.923	17	.147
		Wide	Limited	Limited	.836	17	.005
				Greater	.935	17	.241
			Greater	Limited	.943	17	.331
				Greater	.952	17	.462
Perceived Value	Closely related	Narrow	Limited	Limited	.948	17	.397
				Greater	.973	17	.844
			Greater	Limited	.920	17	.131
				Greater	.966	17	.726
		Wide	Limited	Limited	.977	17	.918
				Greater	.942	17	.317
			Greater	Limited	.970	17	.802
				Greater	.973	17	.843

In addition to the Shapiro-Wilks test, the normality of customers' perceived value means was also checked using skewness and kurtosis statistics as shown in Table 4.8. In order to use skewness and kurtosis statistics to check the normality, z-scores for skew and kurtosis were calculated by dividing the skewness or kurtosis value with its standard error. The z-scores for skew and kurtosis should be within the +2 to -2 range for normality. The results of the skew z-scores from Table 4.8 indicated that again the 5th-row condition departed from normality. Its skew z-score (-3.336) was out of the acceptable normality range of +2 to -2. Similarly, the kurtosis z-scores results also indicated that the 5th-row condition departed from normality as the value (4.805) was out of normality range of +2 to -2.

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Table 4.8 Descriptive Statistics of Perceived Value in Each Cell/Condition

Component	Range	Online	Offline	Mean Statistic	Mean SE	Skewness Statistic	Skewness SE	Skew Z-score
Mixed-related	Narrow	Limited	Limited	4.333	.218	.611	.536	1.140
			Greater	4.563	.201	-.292	.536	-.545
		Greater	Limited	4.397	.180	-.220	.536	-.410
			Greater	4.458	.262	-.377	.536	-.703
	Wide	Limited	Limited	4.794	.135	-1.804	.536	-3.366
			Greater	4.444	.224	.408	.536	.761
		Greater	Limited	5.063	.158	.150	.536	.280
			Greater	5.127	.148	.525	.536	.979
Closely related	Narrow	Limited	Limited	3.968	.246	.361	.536	.674
			Greater	4.762	.215	-.173	.536	-.323
		Greater	Limited	4.635	.199	-.723	.536	-1.349
			Greater	4.611	.196	-.188	.536	-.351
	Wide	Limited	Limited	4.643	.235	-.127	.536	-.237
			Greater	4.841	.168	.451	.536	.841
		Greater	Limited	4.802	.209	-.059	.536	-.110
			Greater	5.151	.145	.127	.536	.237

Table 4.8 (Continued)

Component	Range	Online	Offline	Kurtosis Statistic	Kurtosis SE	Kurtosis Z-score
Mixed-related	Narrow	Limited	Limited	.303	1.038	.292
			Greater	.195	1.038	.188
		Greater	Limited	-.008	1.038	-.008
			Greater	1.492	1.038	1.437
	Wide	Limited	Limited	4.988	1.038	4.805
			Greater	-1.119	1.038	-1.078
		Greater	Limited	-1.234	1.038	-1.189
			Greater	.107	1.038	.103
Closely related	Narrow	Limited	Limited	-.713	1.038	-.687
			Greater	-.576	1.038	-.555
		Greater	Limited	-.407	1.038	-.392
			Greater	-.609	1.038	-.587
	Wide	Limited	Limited	-.407	1.038	-.392
			Greater	-.614	1.038	-.592
		Greater	Limited	-1.019	1.038	-.982
			Greater	-.216	1.038	-.208

Since only one out of the 16 conditions departed from normality, the sample size in this study, 17 subjects per cell, was considered to be large enough, and it was therefore decided that the normality assumption was not seriously violated. Additionally, the *F*-test

in ANOVA is robust to violations of the normality assumption (Maxwell & Delaney 2004).

4.4.4 Outliers

The final issue to be addressed is examining outliers. The purpose of the outliers is to identify extreme points for the dependent variable. A simple approach to detect the outliers is the use of boxplots (Hair 2006). Figure 4.1 shows the boxplot for overall customers' perceived value in this study indicating that no observation was an extreme value on the customers' value measure. Thus, all 272 observations were retained for further analysis.
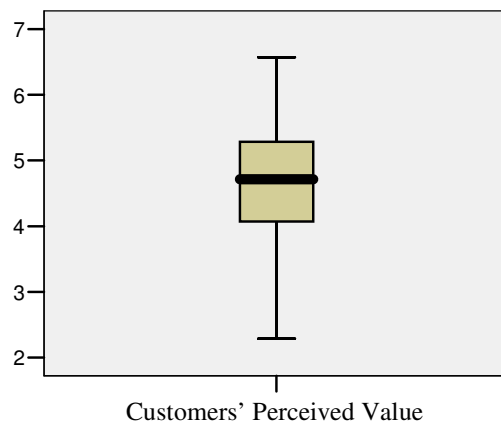
Figure 4.1 Boxplots of Overall Customers' Perceived Value of Products and Services Complementarities Offered by Hypothetical Travel Websites

Since the assumptions of the analysis of variance were satisfied and there were no outliers, this data set was then used for hypothesis testing.

4.5 Hypothesis Tests

The hypotheses about mean differences proposed in this study were tested using analysis of variance (ANOVA). As described in Chapter 3.1.5.3, ANOVA is a useful tool to test the differences between two or more means in the experimental designs (Hair 2006). Since the main purpose of this study was to examine the effects of the four independent variables—(1) Product *component* (closely related vs. mixed-related), (2) Product *range* (wide vs. narrow), (3) *Online* service (greater vs. limited), and (4) *Offline* service (greater vs. limited), as well as their interaction on customers' perceived value—ANOVA was used to test the differences between the means of these four factors and their interaction.

In order to test the differences between these means, univariate tests were performed using SPSS version 15. The statistical ANOVA results from the univariate tests report on all main and interaction effects as shown in Table 4.9. The first four rows illustrate the main effects of each independent variable. The interactions are shown from the 5th through to the 15th rows, including two-way, three-way and four-way interactions, respectively. Table 4.9 also reports the effect size, partial eta squared, along with significance levels of the main and interaction effects. Partial eta squared is the percentage of total variance in the dependent variable accounted for by the variance between groups formed by the independent variable(s) as described in Chapter 3.2.5.

Table 4.9 Analysis of Variance Results of Main and Interaction Effects of Complementary Products and Services Offered by Hypothetical Travel Websites on Customers' Perceived Value with Partial Eta Squared Measures

Effects	df	F	p	η_p^2
Product component (A)	1	0.088	.767	.000
Product range (B)	1	15.666	<.001	.058
Online service (C)	1	4.844	.029	.019
Offline service (D)	1	2.838	.093	.010
A x B	1	0.076	.783	.000
A x C	1	0.009	.925	.000
A x D	1	2.790	.096	.010
B x C	1	1.453	.229	.005
B x D	1	1.036	.310	.004
C x D	1	0.290	.591	.001
A x B x C	1	1.761	.186	.006
A x B x D	1	0.204	.652	.001
A x C x D	1	1.344	.247	.005
B x C x D	1	4.171	.042	.016
A x B x C x D	1	0.242	.623	.001
Error	256			

From Table 4.9, two of the four main effects were statistically significant, product range and online service, at the .05 level. Product range was highly significant, $F(1,256) = 15.666$, $p < .001$, and online service was significant, $F(1,256) = 4.844$, $p = .029$. None of the six two-way interactions was statistically significant. Only one of the four three-way interactions, the Product range by Online service by Offline service interaction, was statistically significant, $F(1,256) = 4.171$, $p = .042$. Finally, a four-way interaction was not statistically significant, $F(1,256) = 0.242$, $p = .623$.

In interpreting the ANOVA results, many authors including Dallal (2007), Hair (2006) and Maxwell and Delaney (2004), suggest that an analysis should begin with an examination of the interactions, if the interaction is significant, because the interpretation of the main effects changes when interactions are present. The interaction, therefore, shows the most complete story. If the interaction is not significant, the main effects can then be examined. However, interpreting interaction is more complicated than

interpreting main effects. Therefore, in this study, the main effects were examined first, and then the interaction. In the following sub-sections, the main effects and the interaction are presented to examine how each treatment affects customers' perceived overall value.

4.5.1 The Main Effects

A main effect is an individual effect of each treatment or independent variable on the dependent variable (Hair 2006). To test the effect of each independent variable on a dependent variable, the differences between the mean values in each level of each treatment variable were compared using one-way ANOVA. There is a main effect if there is a statistical difference between the mean averages of between two or more groups. If the main effect is significant, a post-hoc test should be run to see the difference between the groups (Garson 2007). However, when the main effect has only one degree of freedom, or two groups, there is no need to run any post-hoc tests, the two means are different from each other if the main effect is significant (Becker 1999). In this study, each independent variable was designed to have only two levels; therefore, there is no need to run any post-hoc test when any main effect is significant.

There are four independent variables in this study, so there were four main effects tested: Product Component, Product Range, Online Service, and Offline Service, proposed in Hypotheses 1– 4 as follows.

Product Component
H1: That the more closely related complementary products and services in a bundle are, the greater is their perceived value.

Product Range
H2: That the wider the bundle range of complementary products and services, the greater is their perceived value.

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Online Service

H3: The greater the number of online buying services complementary there
are, the greater is their perceived value.

Offline Service

H4: That the greater the number of offline services complementary there are, the
greater is their perceived value.

The statistical results for the four main factors and their means at the high and low
levels are summarised in Table 4.10. Data in Table 4.10 are used to test the effect of each
of the main factors on customers' perceived value by comparing the mean difference
between the high and low treatment groups in each factor. Each main effect is presented
as follows:

Table 4.10 The Effects of Main Factors on Customers' Perceived Overall Value

Main factor	Mean of overall value at low level of main factor	Mean of overall value at high level of main factor	F (1,256)	p	η_p^2
Product Component	4.648	4.677	0.088	.767	.000
Product Range	4.466	4.858	15.666	<.001	.058
Online Service	4.544	4.780	4.844	.029	.019
Offline Service	4.579	4.745	2.838	.093	.010

Main Effect of Product Component

Hypothesis 1 proposed that the mean overall customers' perceived value for
closely related product components would be higher than that for mixed-related product
components. In order to test H1, mean differences between closely related and mixed-
related product components were compared. As shown in Table 4.10, the mean difference
between the two levels of product components was in the positive direction but it was
very small (closely related, mean = 4.677; mixed related, mean = 4.648). This difference
[(4.677 - 4.648) = 0.029], therefore, was statistically insignificant at the .05 level,
$F(1,256)$ = .088, p = .767. Subjects' perceived overall value was not significant when

closely or mixed-related product components were manipulated. Therefore, product components did not have an effect on subjects' perceived overall value. H1 was not supported.

Main Effect of Product Range

Hypothesis 2 proposed that the mean overall customers' perceived value for wide product ranges would be higher than for those in the narrow product ranges. Mean differences between the two levels of product ranges were examined to test this hypothesis. As shown in Table 4.10, a significant main effect of product ranges was obtained. Mean differences between the wider range and narrow range [(4.858 - 4.466) = 0.392] was large enough to reject the null hypothesis at the .01 significance level, $F(1,256) = 15.666$, $p < .001$. Therefore, the wider range had a significantly higher perceived value than did the narrow range. Although the ANOVA results showed that the means of the product ranges were significantly different, the effect size was moderate. The partial eta squared was (η_p^2) = .058, which indicated that the effects of the product range itself accounted for 5.8% of the total variability in the customers' perceived value.

Main Effect of Online Service

Hypothesis 3 predicted that the mean overall customers' perceived value for greater online service would be higher than that for limited online service. Mean differences between the two levels of online services were calculated and compared to test H3. As shown in Table 4.10, the mean difference between greater and limited online service [(4.780 - 4.544) = 0.236] was large enough to reject the null hypothesis. Subjects perceived a higher overall value when greater online services are offered than limited

online services, $F(1,256) = 4.844$, $p = .029$. Therefore, a significant main effect of online service was obtained at the .05 level. There was a small to moderate difference (Partial Eta Squared (ηp^2) = .019). This means that the online service effect accounted for 1.9% of the total variability in the customers' perceived value.

Main Effect of Offline Service

Hypothesis 4 proposed that the mean overall customers' perceived value for greater offline service would be higher than that for limited offline service. To test this hypothesis, mean differences between the two levels of offline service were compared. Table 4.10 indicates that the mean difference was in the positive direction (greater offline service, mean = 4.745; limited offline service, mean = 4.579). However, this difference [(4.745 - 4.579) = 0.166] was small. Therefore, the main effect of offline service was statistically insignificant at the .05 level, $F(1,256) = 2.838$, $p = .093$. Subjects' perceived overall value was not significantly different when high or low levels of offline service were manipulated. Therefore, offline services did not have an effect on subjects' perceived overall value.

The four main factors have now been presented. However, the interactions between them also affect customers' perceived value. In the following sections, interaction effects are examined in greater detail.

4.5.2 Interaction Effects

An interaction effect is the joint effect of two or more independent variables on the dependent variable (Garson 2007; Hair 2006). An interaction effect exists when the effect of an independent variable on a dependent variable varies according to the level of another independent variable. If, for example, there are two factors, *A* and *B*, the

interaction is identified as the A x B (or AB) interaction. In this study, there were four-factor designs (*A, B, C,* and *D*). The interactions in four-factor designs include six two-way or first-order (AB, AC, AD, BC, BD, CD), four three-way or second-order (ABC, ABD, ACD, BCD), and one four-way or third-order (ABCD) interaction, or a total of 11 interactions.

Interaction effects can be identified both graphically and statistically. Statistical results of interaction effects are also shown in Table 4.9 (p. 167). The fifth through tenth rows present the two-way interactions, the 11th through 14th rows present the three-way interactions, and the 15th row presents the four-way interaction.

Additionally, the interaction can be determined using the graphs of group means. If the lines are not parallel the interaction is present. In contrast, if all of the lines within a graph are parallel or approximately parallel, there is no interaction (Jaccard 1998; Maxwell & Delaney 2004; Price 2000).

The following sections detail these interactions using statistical results as well as graphical display. The two-way (first-order) interaction effects are presented first, followed by the higher order interactions, including three-way and four-way interactions.

Two-Way Interaction Effects

A two-way interaction of the two independent variables was calculated from the value difference of the mean differences when the second variable moderated the relationships of the first variable and a dependent variable. If the value difference is zero, then a two-way interaction exists (Jackard 1998). That is, there is an interaction between

two factors if the effect of one factor depends on the levels of the second factor (Price 2000).

The tests of interaction focus on calculating the mean differences on a dependent variable as a function of an independent variable at each level of the moderator variable. This analysis is called simple main-effects analysis (Jaccard 1991; Maxwell & Delaney 2004). Then the value difference between mean differences at each level is calculated and whether the moderator variable moderates the effect of the first variable on the dependent variable is tested. This approach is called a moderator or cell mean approach (Jaccard 1991). A two-way ANOVA was used to test the two independent variables interaction hypotheses proposed in Hypotheses 5 to 10 in this study. The fifth through 10th rows of Table 4.9 below show the statistical results of the two-way ANOVA. It can be seen that none of the six two-way interactions is statistically significant at the .05 level for these data.

Although the hypotheses did not predict any two-way interaction effects of treatment variables on customers' perceived value, the effects of different levels of the two treatment variables were examined to determine if any mean differences exist between the high and low conditions of the two factors.

In order to explore a two-way interaction with two levels per factor using the moderator or cell mean approach, this study follows the steps suggested by Jaccard (1998) (see Appendix O). The six two-way interactions were examined and depicted in a graphical display of group means (see below). If there is a non-significant interaction, a graph will show two approximately parallel lines, whereas a significant interaction results in a graph with non-parallel lines.

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Table 4.9 Analysis of Variance Results of Main and Interaction Effects of Complementary Products and Services Offered by Hypothetical Travel Websites on Customers' Perceived Value with Partial Eta Squared Measures (repeated)

Effects	df	F	p	η_p^2
Product component (A)	1	0.088	.767	.000
Product range (B)	1	15.666	<.001	.058
Online service (C)	1	4.844	.029	.019
Offline service (D)	1	2.838	.093	.010
A x B	1	0.076	.783	.000
A x C	1	0.009	.925	.000
A x D	1	2.790	.096	.010
B x C	1	1.453	.229	.005
B x D	1	1.036	.310	.004
C x D	1	0.290	.591	.001
A x B x C	1	1.761	.186	.006
A x B x D	1	0.204	.652	.001
A x C x D	1	1.344	.247	.005
B x C x D	1	4.171	.042	.016
A x B x C x D	1	0.242	.623	.001
Error	256			

Interactions Between Product Component and Product Range

The two-way interaction between product component and product range was used to test whether product range enhances the effect of a product component level on customers' perceived overall value as proposed in Hypothesis 5. Table 4.9, Table 4.11, and Figure 4.2 illustrate the results.

> H5: That the product component effect on customers' perceived value will be stronger when a wide range of complementary products and services are bundled rather than a narrow range of complementary products and services.

Table 4.11 illustrates the means of customers' perceived value of product component and product range combinations at each level of both factors. In this table, product component is the first factor and product range is the second or moderator factor.

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Table 4.11 Means of Customers' Perceived Value of Product Component and Product Range Complementarities Offered by Hypothetical Travel Websites

		Product Range	
		Wide	Narrow
Product Component	Closely Related	4.86	4.49
	Mixed-Related	4.86	4.44
Product Component Effect		0.00	0.05
Difference in Component Effect		-0.05	

As shown in Table 4.11, cell means of customers' perceived overall value is higher when a product component, either closely related or mixed-related, is bundled with a wide range of products and services rather than a narrow range. In order to examine whether product range moderates product component effects on customers' perceived value, the two columns (levels) of marginal means of product range were calculated and compared. The first column, the marginal mean of a wide product range was 0.00 (4.86 – 4.86), whereas the marginal mean of a narrow product range, the second column, was 0.05 (4.49 – 4.44). It can be seen that mean differences of the two levels of product range were in the opposite direction, that is, a product component effect on customers' perceived value with the wide product range (0.00) was lower than the narrow product range (0.05). Additionally, the value difference between the mean differences of wide and narrow ranges [(0.00 – 0.05) = -.05] was not statistically significant at the .05 level, $F(1,256) = .076$, $p = .783$, as shown in Table 4.9 (p. 174, fifth row). Therefore, there was not enough evidence to indicate an interaction effect between product component and product range.

Further, the interaction between product component and product range can be clarified by a graphic display. Figure 4.2 presents pictorial representations of the group means of Table 4.11.

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Customers' Perceived Value
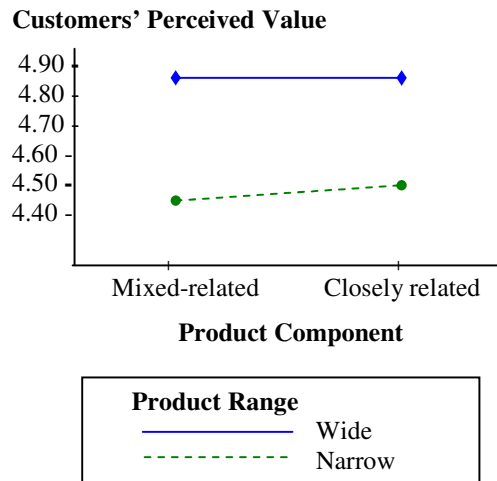
Figure 4.2 Customers' Perceived Value Means for the Product Component by Product Range Interaction Offered by Hypothetical Travel Websites

As shown in Figure 4.2, two parallel lines of product range were plotted. The mean differences (vertical distance) of the mixed and closely related product components on customers' perceived value were almost the same when product range was present. A wide product range, therefore, does not moderate the relationship between customers' perceived value and the product component. In other words, the relationship between the overall value and the product component is not stronger when a wide range of products is presented. Hypothesis 5, therefore, was not supported.

Interaction Effects of Product Component and Online Service

Hypothesis 6 was tested for the two-way interaction between product component and online complementary services. The test was performed to check whether online complementary services can enhance the effect of a product component on customers' perceived value. Table 4.9 (p. 174), Table 4.12, and Figure 4.3 illustrate the results.

H6: That the product component effect on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.

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Table 4.12 illustrates the means of customers' perceived value of product component and online service combinations at each level of both factors. In this table, product component is the first factor whereas online service is the second or moderator factor.

Table 4.12   Means of Customers' Perceived Value of Product Component and Online Service Complementarities Offered by Hypothetical Travel Websites

		Online Service	
		Greater	Limited
Product Component	Closely Related	4.80	4.55
	Mixed-Related	4.76	4.53
Product Component Effect		0.04	0.02
Difference in Product Component Effect		0.02	

As shown in Table 4.12, the combination effects of product component and online service reveals a positive direction, that is, customers' perceived overall value is higher when a product component, either closely related or mixed-related, is bundled with a greater number of online services rather than a limited online service. In order to examine whether online services enhance the effect of a product component on customers' perceived value, the difference in product component effect at each level of online service was calculated. The mean difference of the greater online service was 0.04 (4.80 – 4.76), whereas the mean difference of a limited online service was 0.02 (4.55 – 4.53). The value difference between the mean differences of greater and limited online services was 0.02 (0.04 – 0.02). However, this value difference (0.02) was not statistically significant, $F(1,256) = .009$, $p = .925$, as shown in Table 4.9 (p. 174, sixth row). Customers' perceived value of product component was not significantly different when it is bundled with greater or limited online complementary services. Figure 4.3 also plots the

interaction between product component and online service on customers' perceived value using cell means from Table 4.12.

Customers' Perceived Value

Figure 4.3 Customers' Perceived Value Means for the Product Component by Online
Service Interaction Offered by Hypothetical Travel Websites

As shown in Figure 4.3, two nearly parallel lines of online service were plotted. The vertical distance (mean difference) between greater and limited online service was almost the same at every level of product component. The greater online service, therefore, did not enhance the effects of product component on customers' perceived value. In other words, the relationship between the overall value and the product component is not modified by an online service. Therefore, Hypothesis 6 was not supported.

Interaction Effects of Product Component and Offline Service

The two-way interaction between product component and offline service on customers' perceived overall value was examined with Hypothesis 7. Hypothesis 7 was used to test whether the relationship between a product component on customers'

perceived value is more pronounced when an offline service is greater rather than limited. Table 4.9 (p. 174), Table 4.13, and Figure 4.4 illustrate the results.

H7: That the product component effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

The combination means value of customers' perceived value of product component and offline service at each level are shown in Table 4.13. In this table, product component is presented as a first variable while offline service is presented as a second or moderator variable.

Table 4.13 Means of Customers' Perceived Value of Product Component and Offline Service Complementarities Offered by Hypothetical Travel Websites

		Offline Service	
		Greater	Limited
Product Component	Closely Related	4.84	4.51
	Mixed-Related	4.65	4.65
Product Component Effect		0.19	-0.14
Difference in Component Effect		0.33	

The reverse relationship between customers' perceived value and product component was found when a limited offline service was presented. The limited offline complementary services yielded a greater overall value with the mixed-related product component than the closely related product component (mixed-related = 4.65; closely related = 4.51). The product component effect on customers' perceived value, therefore, was not stronger when offline complementary services are bundled. This relationship was supported by statistical results as shown in Table 4.9 (p. 174, seventh row). Table 4.9 indicates that there was no interaction effect between product component and offline service at the .05 significance level, $F(1,256) = 2.790$, $p = .096$. The value difference

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between the greater and limited offline service [(0.19 – (-0.14) = 0.33] was not large enough to reject the null hypothesis.

Figure 4.4 also presents a graphic display of interaction of product component and offline service on customers' perceived value using the cell means of Table 4.13.

Customers' Perceived Value

Figure 4.4 Customers' Perceived Value Means for the Product Component by Offline Service Interaction Offered by Hypothetical Travel Websites

Figure 4.4 shows the reverse relationship or the negative slope of limited offline complementary services. The limited offline complementary services yielded a lower value with the closely related product component than the mixed-related product component. As a result, the relationship between a product component on customers' perceived value was not stronger when offline services are bundled. Hypothesis 7 was not supported. This reverse relationship may exist because the manipulation websites may have failed to distinguish the difference between the two levels of offline service.

Interaction Effects of Product Range and Online Service

Hypothesis 8 was examined to check whether there was an interaction between product range and online service. In other words, a greater online service was expected to

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be an effective moderator for the relationship between customers' perceived value and product range. Table 4.9 (p. 174), Table 4.14, and Figure 4.5 illustrate the results.

> H8: That the product range effect on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.

Table 4.14 illustrates the combination means of customers' perceived value of product range and online service at each level. In this table, online service is the second variable that moderates the relationship of the effect of product range (the first variable) on customers' perceived value.

Table 4.14 Means of Customers' Perceived Value of Product Range and Online Service Complementarities Offered by Hypothetical Travel Websites

		Online Service	
		Greater	Limited
Product Range	Wide	5.04	4.68
	Narrow	4.53	4.41
Product Range Effect		0.51	0.27
Difference in Product Range Effect		0.24	

As shown in Table 4.14, the relationships of combination effects reveal positive directions. Customers' perceived overall value is higher when a product range, either wide or narrow, is bundled with greater online services rather than limited online services. To test the statistical significance of this relationship, marginal means at each level of online service were calculated. The mean difference of a greater online service was 0.51 (5.04 – 4.53) while the mean difference of a limited online service was 0.27 (4.68 – 4.41). The value difference between greater and limited online service, [(0.51 - 0.27) = 0.24], was not large enough to reject the null hypothesis. The interaction between product range and online service was not statistically significant, $F(1,256) = 1.453$, $p =$

.229, as shown in Table 4.9 (p. 174, eighth row). Therefore, customers' perceived value of product range was not significantly different when it is bundled with a greater number of or limited online complementary services.

The cell means from Table 4.14 were also plotted to illustrate the interaction of product range and online service on customers' perceived value as shown in Figure 4.5.
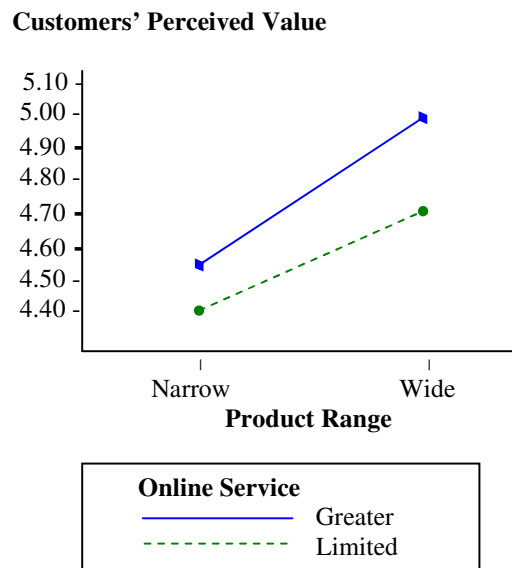
Customers' Perceived Value

Figure 4.5 Customers' Perceived Value Means for the Product Range by Online
Service Interaction Offered by Hypothetical Travel Websites

Figure 4.5 reveals two approximately parallel online service lines. The mean differences between the two levels of online service are almost the same. Therefore, a greater online service does not moderate the relationship between customers' perceived value and the product range. Hypothesis 8 was not supported.

Interaction Effects of Product Range and Offline Service

An interaction between product range and offline service was tested in this section. Hypothesis 9 was used to examine whether offline service moderates the

relationship between product range and customers' perceived value. The results are shown in Table 4.9 (p. 174), Table 4.15, and Figure 4.6.

> H9: That the product range effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

Table 4.15 shows the means of customers' perceived value of product range and offline service at each level. In this table, product range is presented as a first product and offline service is presented as a second or moderator variable.

Table 4.15 Means of Customers' Perceived Value of Product Range and Offline Service Complementarities Offered by Hypothetical Travel Websites

		Offline Service	
		Greater	Limited
Product Range	Wide	4.89	4.83
	Narrow	4.60	4.33
Product Range Effect		0.29	0.50
Difference in Product Range Effect		-0.21	

The positive direction of the two variables was found. Customers' perceived value of greater offline service was higher, whether with a wide or a narrow product range, than a limited offline service. In order to test the significant difference of this relationship, mean differences were calculated. The product range effect on customers' perceived value with greater offline services was 0.29 (4.89 – 4.60) whereas the product range effect on customers' perceived value with limited offline services was 0.50 (4.83 – 4.33). The value difference between the greater and limited offline service, [(0.29 - 0.50) = -0.21], was not statistically significant at the .05 level, $F(1,256) = 1.036$, $p = .310$, as shown in Table 4.9 (p. 174, ninth row). However, the marginal mean of limited offline

service was higher than the greater offline service. Again, this may be because the websites failed to distinguish between the two levels of offline service.

Figure 4.6 graphs the cell means of interaction between product component and offline service using data from Table 4.15.
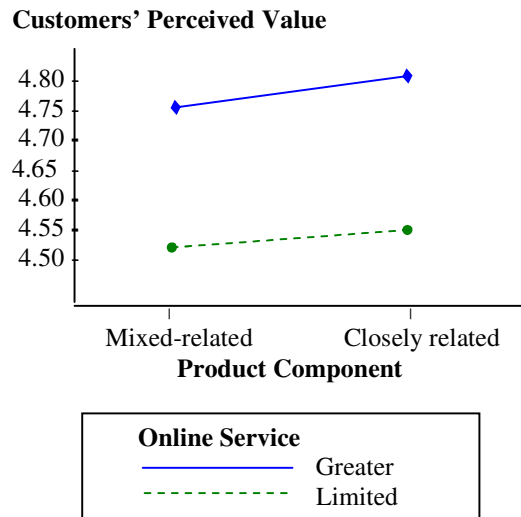
Customers' Perceived Value
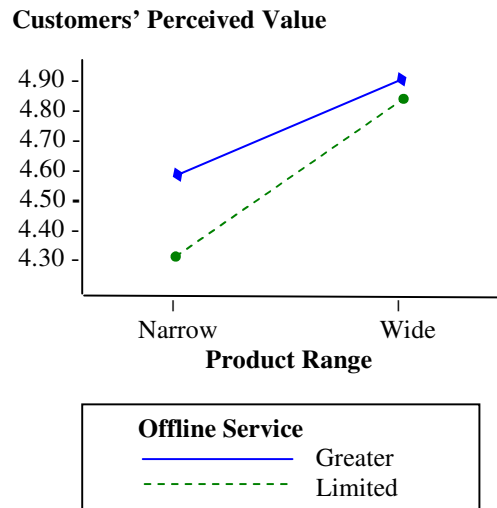
Figure 4.6 Customers' Perceived Value Means for the Product Range by Offline
Service Interaction Offered by Hypothetical Travel Websites

As shown in Figure 4.6, the slope of the limited offline service line is steeper than the slope of the greater offline service line. The vertical distance (mean difference) at the narrow product range was wider than at the wide product range. Therefore, the relationship between a product range on customers' perceived value is not more pronounced when a greater offline service is presented than a limited offline service. That is, a greater offline service does not moderate the relationship between customers' perceived value and the product range. Hypothesis 9 was not supported.

Interaction Effects of Online and Offline Service

Hypothesis 10 tested the interaction effects between online and offline services to examine whether offline services moderate the relationship between online services and

customers' perceived value. Table 4.9 (p. 174), Table 4.16, and Figure 4.9 illustrate the results.

> H10: That the online services' effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

Table 4.16 illustrates the means of customers' perceived value of online and offline services complementarities. In this table, online services are presented as a first variable whereas offline services are presented as a second or moderator variable.

Table 4.16 Means of Customers' Perceived Value of Online Service and Offline Service Complementarities Offered by Hypothetical Travel Websites

		Offline Service	
		Greater	Limited
Online Service	Greater	4.84	4.72
	Limited	4.65	4.43
Online Service Effect		0.19	0.29
Difference in Online Service Effect		-0.10	

The positive direction of effect of offline services on online services was found. Customers' perceived value of online service with the greater number of offline services was higher than with the limited offline service. This relationship was further tested for statistical significance by comparing the marginal means between the two levels of offline service. The mean difference of the greater offline service was 0.19 (4.84 - 4.65) whereas the mean difference of the limited offline service was 0.29 (4.72 - 4.43). The value difference between the greater and limited offline service [(0.19 - 0.29) = -0.10] was not statistically significant at the .05 level, $F(1,256) = .290$, $p = .591$, as shown in Table 4.9 (p. 174, 10th row). Customers' perceived value of online service was not

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significantly different when it is bundled with greater or limited offline complementary services.

Additionally, Figure 4.7 presents the interaction graph of online and offline service complementarities using the cell means from Table 4.16.
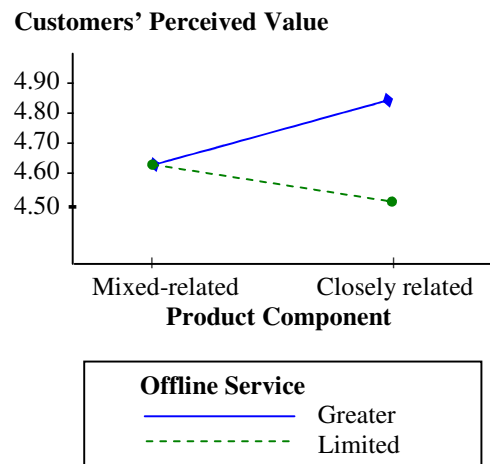
Customers' Perceived Value
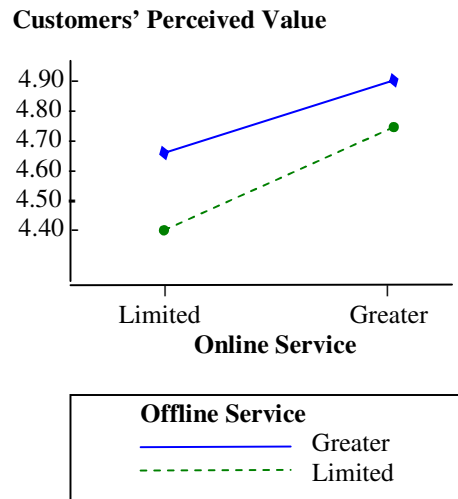
Figure 4.7 Customers' Perceived Value Means for the Online Service by Offline Service Interaction Offered by Hypothetical Travel Websites

As shown in Figure 4.7, two approximately parallel online service lines were found. The slope of the limited and the greater offline services lines were almost the same. As a result, the online services effect on customers' perceived value is not stronger when greater offline complementary services are bundled when compared to limited offline complementary services. Hypothesis 10 therefore was not supported.

Three-Way Interaction Effects

A three-way interaction, A x B x C, is a higher order design. It extends the logic of the two-way interaction that includes the third variable as a second-order moderator that moderates the impact of the first-order moderator (the second variable) on the

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relationship between the focal independent variable and the dependent variable. For example, an A x B x C interaction means that the two-way A x B effect differs at the different levels of C (Maxwell & Delaney 2004). If the two-way interactions are identical for both levels of the second-order moderator, then the difference between the two-way interaction parameter values should be zero (Jaccard 1998). This implies that there is no three-way interaction effect.

In this study, the statistical results of four three-way interactions are shown from the 11th through 14th rows of Table 4.9 below. Only one of the four three-way interactions was statistically significant, which was the effect of the three-way interaction between product range, online service, and offline service at the .05 level, $F(1,256) = 4.171$, $p = .042$.

Table 4.9 Analysis of Variance Results of Main and Interaction Effects of Complementary Products and Services Offered by Hypothetical Travel Websites on Customers' Perceived Value with Partial Eta Squared Measures (repeated)

Effects	*df*	*F*	*p*	η_p^2
Product component (A)	1	0.088	.767	.000
Product range (B)	1	15.666	<.001	.058
Online service (C)	1	4.844	.029	.019
Offline service (D)	1	2.838	.093	.010
A x B	1	0.076	.783	.000
A x C	1	0.009	.925	.000
A x D	1	2.790	.096	.010
B x C	1	1.453	.229	.005
B x D	1	1.036	.310	.004
C x D	1	0.290	.591	.001
A x B x C	1	1.761	.186	.006
A x B x D	1	0.204	.652	.001
A x C x D	1	1.344	.247	.005
B x C x D	1	4.171	.042	.016
A x B x C x D	1	0.242	.623	.001
Error	256			

Although the other three three-way interactions were not statistically significant, the effects of different levels of the three treatment variables were examined to determine if any mean differences did exist between the high and low conditions of the three factors. In order to explore a three-way interaction with two levels per factor using the moderator approach, this study follows the steps suggested by Jaccard (1998) (see Appendix P).

Additionally, graphs are plotted to determine a three-way interaction. In this case, two separate two-factor graphs for each level of the second-order moderator variable are presented. If there is no three-way interaction, then the pattern of the lines in each graph should be the same (Jaccard 1998). The Hypotheses 11 to 14 proposed in this study are tested in the following sections.

Interaction Effects of Product Component, Product Range, and Online Service

The three-way interaction between product component, product range and online service is tested in this section. Hypothesis 11 was used to examine whether online service moderates the relationship of product component and product range's interaction on customers' perceived value. The results are shown in Table 4.9 (p. 187), Table 4.17, and Figure 4.8. Details are presented below.

> H11: That the effect of the product component and product range on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.

In testing the three-way interaction between product component, product range and online service, the online service is defined as the second-order moderator that moderates the impact of product range (the first-order moderator) on the relationship

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between product component (focal variable) and customers' perceived value. Two sets of mean values of product component and product range for the greater and limited online service were set as shown in Table 4.17. In order to test whether online services can help enhance customers' perceived value of product component and product range interactions, the marginal means of each two-way interaction were calculated.

Table 4.17 Means of Customers' Perceived Value of Product Component, Product Range, and Online Services Complementarities Offered by Hypothetical Travel Websites

		Greater Online Service		Limited Online Service	
		Product Range		Product Range	
		Wide	Narrow	Wide	Narrow
Product Component	Closely Related	4.98	4.62	4.74	4.37
	Mixed-Related	5.10	4.43	4.62	4.45
Product Component Effect		-0.12	0.19	0.12	-0.08
Difference in Product Component Effect		-0.31		0.20	

As shown in Table 4.17, the difference in product component effect when online service is greater was -0.31 (-0.12 – 0.19) and the difference in product component effect when online service is limited was 0.20 [(0.12 – (-.08)]. The value difference between the two two-way interaction means was 0.51 [0.20 – (-0.31)], and this is the parameter value for the three-way interaction. This value was not large enough to reject the null hypothesis. As shown in Table 4.9 (p. 187, 11th row), statistical results indicate that the three-way interaction between product component, product range, and online service was not statistically significant, $F(1,256) = 1.761$, $p = .186$. Therefore, greater online service does not moderate the relationship between customers' perceived value and the product component and product range.

This three-way interaction can be graphically displayed as illustrated in Figure 4.8. Figure 4.8a presents the interaction effects of product component and product range on customers' value when online service is limited, while Figure 4.8b presents the corresponding value when online service is greater using the cell means from Table 4.17.

As shown in Figure 4.8b, a negative slope was found for a wide product range. The relationship between the product component and product range on the overall perceived value was not stronger when a greater online service was presented. The greater online service, thus, did not moderate the relationship between product component and product range on customers' perceived value. Hypothesis 11 was not supported.
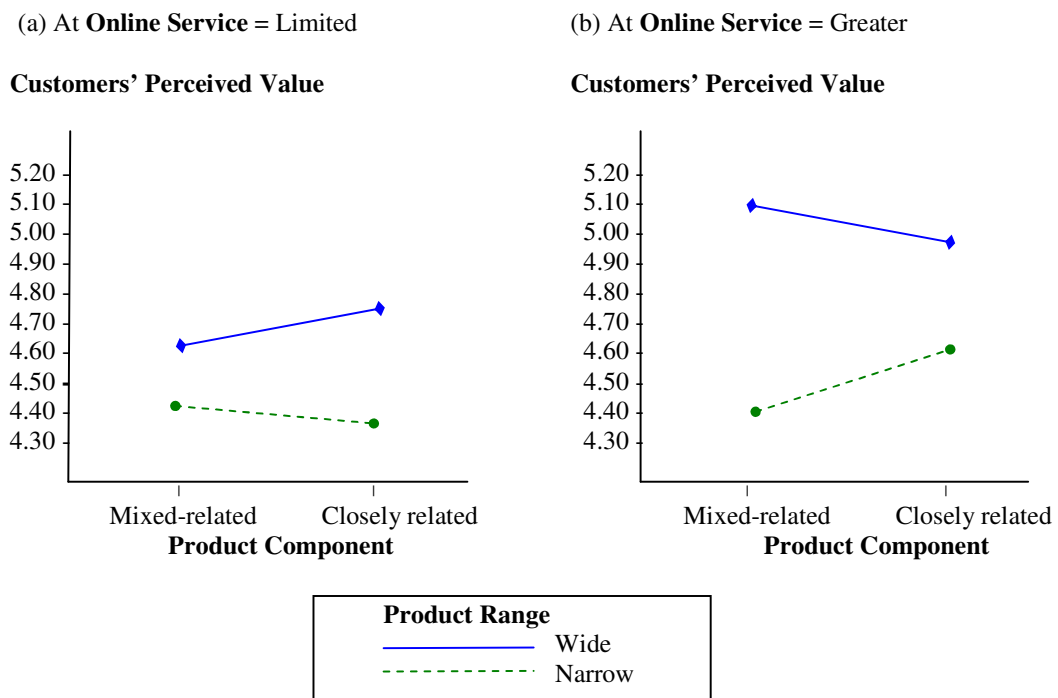
Figure 4.8 Customers' Perceived Value Means for the Product Component by Product Range Interaction at the Two Levels of Online Service

<u>***Interaction Effects of Product Component, Product Range, and Offline Service***</u>

Hypothesis 12 was tested for the three-way interaction of product component, product range and offline service. This test was performed to check whether offline services can enhance the effect of product component and product range on customers' perceived value. The results are shown in Table 4.9 (p. 187), Table 4.18, and Figure 4.9.

> H12: That the effect of the product component and product range on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

In order to test Hypothesis 12, the marginal means of the three-factor interaction are calculated as shown in Table 4.18. In this table, offline services are defined as a second-moderator variable that moderates the relationship between the product component and product range on customers' perceived value. The first set 2 x 2 table illustrates the cell means of product component and product range when offline service is greater, while the second 2 x 2 table presents the corresponding cell means when the offline service is limited.

Table 4.18 Means of Customers' Perceived Value of Product Component, Product Range, and Offline Services Complementarities Offered by Hypothetical Travel Websites

		Greater Offline Service		Limited Offline Service	
		Product Range		Product Range	
		Wide	Narrow	Wide	Narrow
Product Component	Closely Related	5.00	4.69	4.72	4.30
	Mixed-Related	4.79	4.51	4.93	4.37
Product Component Effect		0.21	0.18	-0.21	-0.07
Difference in Product Component Effect		0.03		-0.14	

As shown in Table 4.18, the difference in product component effect on customers' perceived value of the first two-way interaction was 0.03, while the difference in the second two-way interaction was -0.14. The value difference between the two two-way interactions was 0.17 [0.03 – (-0.14)]. This is the parameter value used to test the three-way interaction. The statistical results as shown in Table 4.9 (p. 187, 12th row) illustrate that this value difference was not large enough to reject the null hypothesis. There was not enough evidence showing an interaction effect. Thus, there is no interaction effect between product component, product range, and offline services at the .05 significance level, $F(1,256) = .204$, $p = .652$. Hypothesis 12 was therefore not supported. The relationship of a product component and a product range on the overall value was not stronger when a greater offline service is presented.

Figure 4.9 also shows two graphs plotted to determine the three-way interaction between product component and product range for the (a) limited offline service and (b) greater offline service using the cell means from Table 4.18.

Figure 4.9 Customers' Perceived Value Means for the Product Component by Product Range Interaction at the Two Levels of Offline Service

As shown in Figure 4.9, the pattern of the two graphs were almost the same, with both almost parallel negative slope lines in Figure 4.9a and both parallel positive slope lines in Figure 4.9b. Therefore, offline services do not moderate the effect of the product component and online service on customers' perceived value.

Interaction Effects of Product Component, Online Service, and Offline Service

Hypothesis 13 tested the three-way interaction of product component, online services and offline services. The test was performed to check whether the effect of product component and online services on customers' perceived value is moderated by offline services. Table 4.9 (p. 187), Table 4.19, and Figure 4.10 show the results of this test.

> H13: That the effect of the product component by online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than a limited offline complementary service.

Table 4.19 illustrates the means of customers' perceived value of the three-factor interaction: product component, online services, and offline services. In this table, an offline service is presented as the second-order moderator variable that moderates the effect of product component (the focal variable) an online service (the second- or first-order moderator variable) on customers' perceived value. The cell means of the two sets of two-way interaction between product component and online services are presented. While the first two-way interaction is presented with the limited offline services, the second set is presented with the greater offline services.

In order to test Hypothesis 13, whether offline services can enhance customers' perceived value of product component and online services interaction, the value differences in these cell means are calculated.

Table 4.19 Means of Customers' Perceived Value of Product Component, Online Service, and Offline Services Complementarities Offered by Hypothetical Travel Websites

		Greater Offline Service		Limited Offline Service	
		Online Service		Online Service	
		Greater	Limited	Greater	Limited
Product Component	Closely Related	4.88	4.80	4.72	4.31
	Mixed-Related	4.79	4.50	4.73	4.56
Product Component Effect		0.09	0.30	-0.01	-0.25
Difference in Product Component Effect		-0.21		0.24	

As shown in Table 4.19, the value difference between the two two-way interactions at limited and greater offline services is -0.45 (-0.21 – 0.24). However, this value difference is not large enough to reject the null hypothesis. The statistical results in Table 4.9 (p. 187, 13th row) show that the relationship between product component, online services, and offline services is statistically insignificant, $F(1,256) = 1.344$, $p = .247$. The greater offline services do not enhance the effect of product component and online services on customers' perceived value.

A graphical display of this three-way interaction is illustrated in Figure 4.10. Figure 4.10a presents the interactions of product component and online services when offline services are limited, while Figure 4.10b presents the corresponding value when offline services are greater using the cell means from Table 4.19.

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(a) At **Offline Service** = Limited   (b) At **Offline Service** = Greater
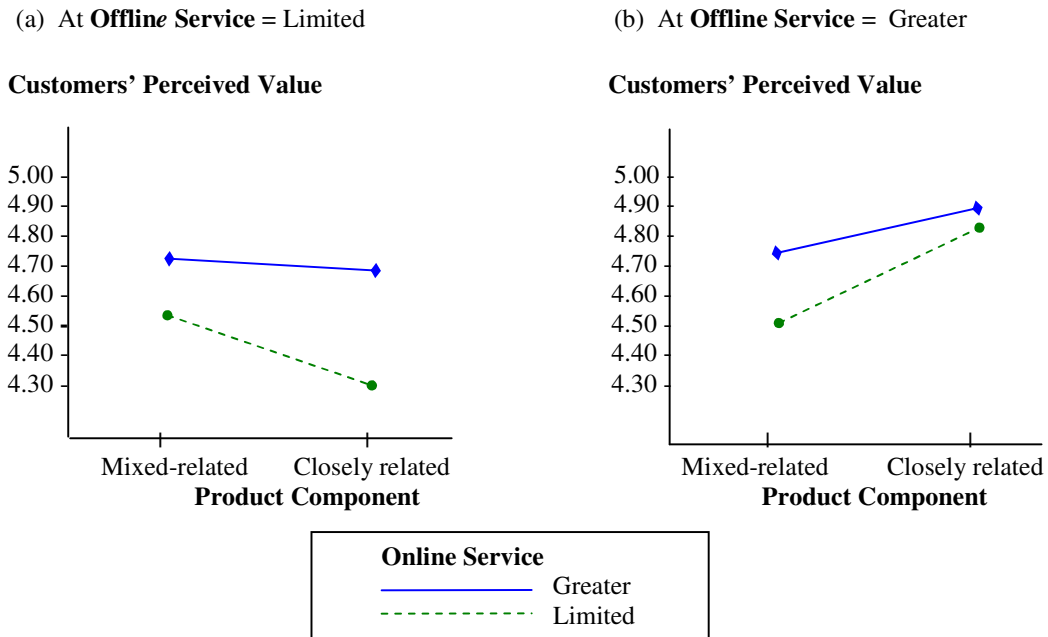
Figure 4.10 Customers' Perceived Value Means for the Product Component by
Online Service Interaction at the Two Levels of Offline Service

As shown in Figure 4.10, the patterns of the two graphs are almost the same, with
approximately parallel negative slope lines in Figure 4.10a and approximately parallel
positive slope lines in Figure 4.10b. Figure 4.10b also indicates the steeper positive slope
of limited online service relative to greater offline service. The relationship between the
product component and online services on the overall customer perceived value was not
stronger when a greater number of offline services were presented to the subjects.
Therefore, offline services did not moderate the effect of the product component and
online service on customers' perceived value. Hypothesis 13 was not supported.

Interaction Effects of Product Range, Online Service and Offline Service

The relationships between product range, online services, and offline services
were examined via a three-way interaction. Hypothesis 14 was tested to identify whether
offline services can enhance customers' perceived value on product range and online

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service interactions. Table 4.9 (p. 187), Table 4.20, and Figure 4.11 show the results of this test.

> H14: That the effect of the product range and online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.

Table 4.20 illustrates the means of customers' perceived value of the three-factor interaction: product range, online services, and offline services complementarities. In this table, the product range is defined as the focal variable, online services are the second (first-order moderator) variable and offline services are the third (second-order moderator) variable. The two sets of the two-way interaction of product range by online services are presented, first when offline services are limited and second when the offline services are greater.

Table 4.20 Means of Customers' Perceived Value of Product Range, Online Services, and Offline Services Complementarities Offered by Hypothetical Travel Websites

		Greater Offline Service		Limited Offline Service	
		Online Service		Online Service	
		Greater	Limited	Greater	Limited
Product Range	Wide	5.14	4.64	4.93	4.72
	Narrow	4.54	4.66	4.52	4.15
Product Range Effect		0.60	-0.02	0.41	0.57
Difference in Product Range Effect		0.62		-0.16	

In order to test whether offline services can enhance customers' perceived value on product range and online service interactions, the marginal means of each data set were calculated. The first 2 x 2 table above shows that the difference in product range effect is 0.62 [0.60 – (-0.02)], whereas the difference in product range effect in the

second table is -0.16 (0.41 – 0.57). It can be seen that the two-way product range x online service interaction is higher when greater offline services rather than limited offline services are presented. The value difference between the two two-way interactions was 0.78 [0.62-(-0.16)]. This value difference was used to test the statistical significance for this three-way interaction. As shown in the ANOVA results in Table 4.9 (p. 187, 14th row), this value was large enough to reject the null hypothesis. There was enough evidence showing an interaction effect. Thus, the three-way interaction between product range, online service, and offline service is significantly different at the .05 level, $F(1,256) = 4.171$, $p = .042$. Therefore, offline service moderates the relationship between customers' perceived value and product range and online service interaction. Although the ANOVA results showed that the means of this three-way interaction were significantly different, the effect size was small to moderate. The partial eta squared (η_p^2) was .016, as shown in Table 4.9, which means that the three-way interaction effects of product range and online service and offline service accounted for 1.6% of the total variability in the customers' perceived value. Although the effect size was relatively weak, this is actually the most interesting and informative part of this ANOVA, because it indicates that the two-way product range x online service effect differs at different levels of offline services (whether limited or greater).

This three-way interaction was also illustrated by the graphs in Figure 4.11. Two two-factor graphs for each level of offline services offered using the cell means given in Table 4.20 were plotted. Figure 4.11a illustrates the cell means for online services and product range interactions when offline services are limited. Figure 4.11b presents corresponding cell means when offline services are greater.

(a) At **Offline Service** = Limited

Customers' Perceived Value

(b) At **Offline Service** = Greater
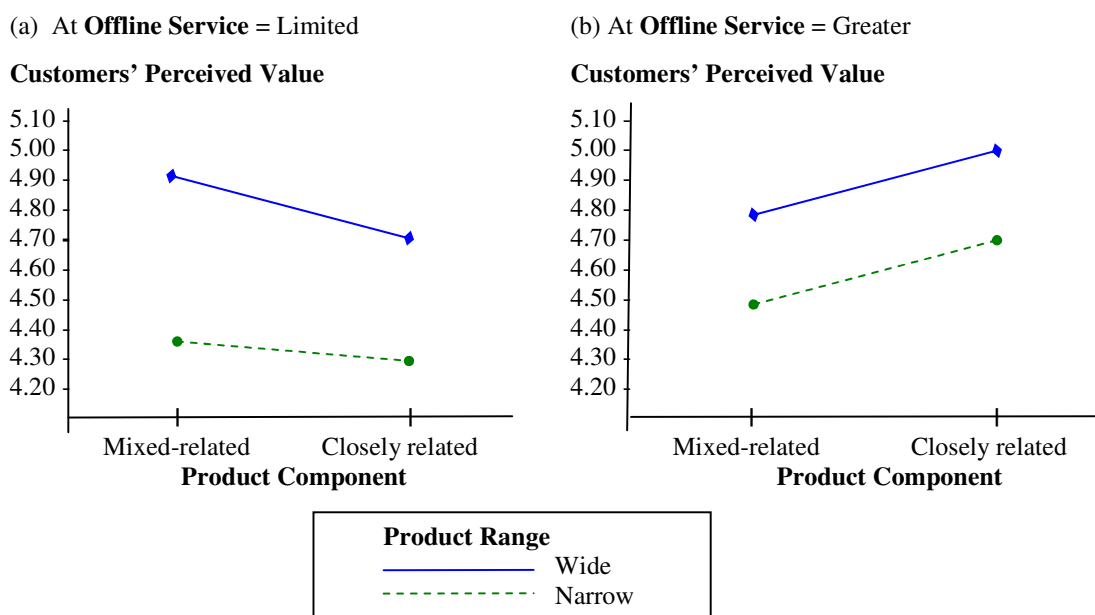
Customers' Perceived Value

Figure 4.11 Customers' Perceived Value Means for the Product Range by Online
Service Interaction at the Two Levels of Offline Service

As shown in Figure 4.11, the pattern of the lines in each graph is not the same, with a steeper and more divergent line for greater online services relative to limited online services in the greater offline conditions as opposed to the limited offline services conditions. Therefore, offline services can enhance customers' perceived value on product range and online services interactions. This means that the interaction between product range and online service varies according to the level of offline services offered.

To gain additional insights into this significant interaction, whether the interaction between product range and online service was statistically significant at each level of offline services, additional simple interaction effects contrasts were performed to follow up on this significant interaction.

Simple Interaction Effects

Simple interaction effects are used to determine whether the two-way interaction was statistically significant at each level of the second-order moderator variable (Jaccard 1991). Since the interaction between product range and online services varies according to the level of offline services offered, simple interaction effects tests were conducted to determine whether the interaction between product range and online service was statistically significant at each level of offline services. There are two levels of offline services; therefore, two simple interaction effects contrasts were examined. Since univariate tests did not provide this follow-up test, the simple interaction effects test was performed using SPSS syntax instructions (see Appendix Q) following the guidelines of Kerr et al. (2002) and Nichols (1993).

Table 4.21 presents the results of testing Product *Range* x *Online* Service at each level of the *Offline* Service factor.

Table 4.21 Results for Analysis of Variance of Three-Way Interaction: Simple Interaction Effects of Product Range x Online Service at Each Level of Offline Service Complementarities

Source of Variation	*df*	*F*	*p*
Range by *Online* within *Offline* (1) (product range x online service for limited offline service)	1	.53	.466
Range by *Online* within *Offline* (2) (product range x online service for greater offline service)	1	4.68	.031
Within +Residual	264		

As shown in Table 4.21, the two-way Product *Range* x *Online* Service interaction was significant at the .05 level when offline service is greater, $F(1,264) = 4.68$, $p = .031$, but not when offline service is limited, $F(1,264) = 0.53$, $p = .466$. Thus, it can be stated

that the relationship between the product range and online service on the overall customers' value was stronger when a greater number of offline services were presented.

Since the relationship between the product range and online services on the overall customers' value was stronger when a greater number of offline services were presented, another test called the simple-simple main effect was performed to test whether product range has an effect on customers' perceived value at each level of online services and greater offline services. The following section examines the simple-simple main effect in detail.

Simple-Simple Main Effect

The simple-simple main effect is another set of contrasts conducted to test whether the focal independent variable has an effect on the dependent variable at each level of first-order and second-order moderator variables. In this contrast, the impact of the focal independent variable is evaluated after fixing the levels of two factors, not one (Jaccard 1991; Maxwell & Delaney 2004).

Because product range and online services interacted when offline services were greater but not when it was limited, the subsequent tests were performed only under the condition of a greater number of offline services being offered. Just as the effect of product range is not the same for every online service condition, similarly, the differences among online services are not the same when product range is wide as when it is narrow. Therefore, the effect of product range at each individual level of the online service factor and the online service effect at each level of product range are further tested. On the one hand, these next tests included the tests of product range at each level of online services; on the other hand, the tests of online services at each level of product

range were performed. However, these tests were performed under the greater offline service condition. Since univariate tests did not provide this follow-up test, the simple-simple interaction effects test was performed using SPSS syntax instructions (see Appendix R) following the guidelines of Kerr et al. (2002) and Nichols (1993).

As shown in Table 4.22, the tests of product range are of the form:

- product range for limited online service when offline service is greater: *Range* within *Online* (1) by *Offline* (2), and

- product range for greater online service when offline service is greater: *Range* within *Online* (2) by *Offline* (2).

And the two tests of online service are:

- online service for narrow product range when offline service is greater: *Online* within *Range* (1) by *Offline* (2), and

- online service for wide product range when offline service is greater: *Online* within *Range* (2) by *Offline* (2).

Table 4.22 Results for Analysis of Variance of Three-Way Interaction: Simple-Simple Interaction Effects of Product *Range* and *Online* Service when *Offline* Service is Greater

Source of Variation	df	F	p
Range within *Online* (1) by *Offline* (2)	1	.02	.902
Range within *Online* (2) by *Offline* (2)	1	8.62	.004
Online within *Range* (1) by *Offline* (2)	1	.62	.430
Online within *Range* (2) by *Offline* (2)	1	5.15	.024
Within + Residual	264		

The results of the simple-simple main effects test in Table 4.22 indicate that at the greater offline service level, product range had an effect when combined with a greater number of online services rather than limited. In addition, when offline services are

greater, online services had an effect when combined with a wide product range not a narrow one.

All three-way interactions were completely presented. In the following section, a four-way interaction is examined.

Four-way Interaction Effects

In this section, another higher order design, a four-way interaction, is examined. The four-way interaction or four-factor design incorporates the same basic logic as described in the previous section but the four-factor design includes three levels of moderator variable, a first-order moderator variable, a second-order moderator variable, and a third-order moderator variable that moderates the impact of the second-order moderator on the first-order moderator's impact on the relationship between the focal independent variable and the dependent variable (Jaccard 1998, p. 79).

In the case of 2 x 2 x 2 x 2 design, the four-way interaction (A x B x C x D) is reflected in the difference between the parameter value for a three-way interaction at the first level of the third-order moderator variable and the parameter value for the corresponding three-way interaction at the second level of the third-order moderator variable (Jaccard 1998, p. 79). For instance, a significant four-way interaction (A x B x C x D) indicates that the three-way A x B x C interaction is not the same at each level of D or that the three-way A x B x D interaction is not the same at each level of C or that the three-way B x C x D interaction is not the same at each level of A (Karpinski 2006).

The four-way interaction can be explored using simple interaction effects, simple-simple interaction effects, and simple-simple-simple main effects. The steps in exploring

a four-way interaction with two levels per factor using the moderator approach are similar to the steps developed earlier for two- and three-way interactions (Jaccard 1998). To graph a four-way interaction, the four separate two-way interactions are graphed (Karpinski 2006).

In this study, one four-way interaction—consisting of product component, product range, online service, and offline service—was examined. Hypothesis 15, shown below, tests whether a three-way product component, product range, and online service interaction is larger when a greater number of offline services are offered rather than limited offline services.

> H15: That the effect of the product component, product range, and online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled than limited offline complementary service.

The results from Table 4.9 (15th row) below illustrate that there was no significant interaction between product component, product range, online service, and offline services at the .05 significance level, $F(1,256) = .242$, $p = .623$. Therefore, product component, product range, and online service interaction is not larger when a greater number of offline services are offered. However, a detail of the four-way interaction was not presented here because there was no statistical significance in the four-way interaction and because of the complexity of interpreting and graphing.

Table 4.9 Analysis of Variance Results of Main and Interaction Effects of Complementary Products and Services Offered by Hypothetical Travel Websites on Customers' Perceived Value with Partial Eta Squared Measures (repeated)

Effects	df	F	p	η_p^2
Product component (A)	1	0.088	.767	.000
Product range (B)	1	15.666	<.001	.058
Online service (C)	1	4.844	.029	.019
Offline service (D)	1	2.838	.093	.010
A x B	1	0.076	.783	.000
A x C	1	0.009	.925	.000
A x D	1	2.790	.096	.010
B x C	1	1.453	.229	.005
B x D	1	1.036	.310	.004
C x D	1	0.290	.591	.001
A x B x C	1	1.761	.186	.006
A x B x D	1	0.204	.652	.001
A x C x D	1	1.344	.247	.005
B x C x D	1	4.171	.042	.016
A x B x C x D	1	0.242	.623	.001
Error	256			

The effects of the four independent variables and their interactions on customers' perceived value were all presented using one-way through four-way ANOVA. In the next section, a relationship between customers' perceived value and behavioural intentions is further analysed.

4.6 Perceived Value and Behavioural Intentions

In this section, the relationship between the customers' perceived value and behavioural intentions, as proposed in Hypothesis 16 below, is explored in terms of direction as well as magnitude.

> H16: Customers' perceived value of products and services complementarities is positively related to customers' behavioural intentions.

Data from 272 subjects, as mentioned in section 4.2, were used for the data analysis. Regression analysis was used to examine the relationship between perceived

value and behavioural intentions. Table 4.23 presents a summary of the regression model.

As shown in Table 4.23, the correlation coefficient (r) was .625, which indicates a strong

positive relationship between perceived value and behavioural intentions. Thus, the more

value customers place on the product and/or service offerings, the more this indicates

their future behaviour. Almost 39% of the variability in customers' future behaviour can

be explained by customers' perceived value (R^2 = .389, $F(1,270)$ = 173.264, p <.001).

Therefore, an increase in perceived value may suggest a moderated increase in future

behaviour.

Table 4.23 Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.625	.391	.389	.95885

Note. $F(1,270)$ = 173.264, p <.001. Customers' Perceived Value is the predictor variable.

Table 4.24 presents the result of the regression analysis. Results indicate that

customers' perceived value was statistically significant in predicting future behaviours at

the .01 level, beta = .625, $t(270)$ = 13.163, p = < .001.

Table 4.24 Regression Analysis of Behavioural Intentions by Customers' Perceived
Value of Products and Services Complementarities Offered by Hypothetical
Travel Websites

Independent Variable	B	SE_b	Beta	t	p
Perceived Value	.877	.067	.625	13.163	<.001

Note. B: Unstandardized Coefficients, Beta: Standardized Coefficients

4.7 Summary

This chapter examined the effects of product component, product range, online service, and offline service offered by travel websites on customers' perceived value. Hypotheses 1 to 15 were tested using a four-factor ANOVA. Two of the four main effects were statistically significant: product range and online service. Subjects perceived greater value when a wide rather than a narrow range of complementary products and services was offered. Also, a greater number of online services were perceived as of greater value than limited online services. In contrast to expectations, subjects did not perceive the value of two main factors manipulated in this experiment: product component and offline service complementarities. Subjects did not perceive an offering of closely related products and services as of greater value than one of mixed-related products and services. Furthermore, subjects did not perceive a greater number of offline services to be of more value than limited offline services.

Even though offline services were not statistically significant as the main effect, offline services play a moderator role in enhancing the value of product range and online service offerings. Subjects perceived online services and product range offerings to be of greater value when the offering was bundled with a greater number of offline services rather than limited offline services. The findings from this study revealed that bundles of product range, online services, and offline services offered by e-business were more important in creating customer value perceptions than other combinations.

Further, the regression analysis results confirm the positive relationship between customers' perceived value of complementary products and services offered by e-business and customers' behavioural intentions (Hypothesis 16). These results are summarised in Table 4.25.

Table 4.25 Summary Results of the Experimental Study

Hypothesis	Result
Main effect (H1-H4)	
H1: That the more closely related complementary products and services in a bundle are, the greater is their perceived value.	This hypothesis is not supported.
H2: That the wider the bundle range of complementary products and services, the greater is their perceived value.	This hypothesis is supported.
H3: That the greater the number of online buying services complementary there are, the greater is their perceived value.	This hypothesis is supported.
H4: That the greater the number of offline services complementary there are, the greater is their perceived value.	This hypothesis is not supported.
Two-Way Interaction Effects (H5-H10)	
H5: That the product component effect on customers' perceived value will be stronger when a wide range of complementary products and services are bundled rather than a narrow range of complementary products and services.	This hypothesis is not supported.
H6: That the product component effect on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.	This hypothesis is not supported.
H7: That the product component effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is not supported.
H8: That the product range effect on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.	This hypothesis is not supported.
H9: That the product range effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is not supported.

Table 4.25 (Continued)

Hypothesis	Result
H10: That the online services effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is not supported.
Three-Way Interaction Effects (H11-H14)	
H11: That the effect of the product component and product range on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.	This hypothesis is not supported.
H12: That the effect of the product component and product range on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is not supported.
H13: That the effect of the product component and online service on customers' perceived value will be stronger when a greater number of offline complementary service are bundled rather than limited offline complementary service.	This hypothesis is not supported.
H14: That the effect of the product range and online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is supported.
Four-Way Interaction Effects	
H15: That the effect of the product component, product range, and online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary service.	This hypothesis is not supported.
Perceived Value and Behavioural Intentions	
H16: Customers' perceived value of products and services complementarities is positively related to customers' behavioural intentions.	This hypothesis is supported.

In summary, Experiment Two revealed that there are two main factors—product range and online services—which can be used to enhance perceived customer value of complementary travel products and services. The effects were moderate (partial eta squared = .058) for product range and small to moderate (partial eta squared = .019) for online services. The findings also suggest that customer perceptions of the value of complementary products and services offered by a travel website are more likely to be explained by their perception of bundles of three products and/or services offered: product range, online service, and offline service complementarities offered together with the core offering of airline tickets. More specifically, a greater number of offline services can be used to enhance customer value of product range and online services offerings. Additionally, at the greater offline service level, product range had an effect when combined with a greater rather than limited number of online services. The effect size of these three factors was small to moderate (partial eta squared = .016). This means that the effects of the three-factor Product Range by Online Service by Offline Service interaction accounted for 1.6% of the total variability in the customers' perceived value. Even though the effect size of these three factors was small to moderate, this three-factor interaction is important in this study because it shows the complete result of this study.

Moreover, this study found that customers' perceived value of complementary products and service offered accounted for 39% of the variability in customers' future behaviour. This means that there are other factors that might affect customer value and influence behavioural intentions. In order to discover other factors related to customers' future behaviour, besides the perceived value of complementary products and services offered, face-to-face interviews were also conducted as described in Chapter 3.3. The results of these interviews will be presented in detail in the next chapter.

Chapter 5

EXPERIMENT INTERVIEW RESULTS

5.1 Introduction

This chapter presents the results of 10 individual experiments accompanied by face-to-face interviews regarding shopping for travel products and services online, as described in Chapter 3.2. The experiments and interviews were conducted to supplement and confirm the findings of the previous experimental study described in Chapter 4, to answer the research question: 'What is the value of complementary products and services in e-business?' Interviewees were academic staff from the School of Business Information Technology (BIT) and postgraduate business research students at RMIT University, who had previous experience in purchasing travel products over the Internet. Interviewees' status is listed in Table 5.1.

Table 5.1 List of Interviewees Participated in the Study

Interviewee #	Status
1	Male, Post-graduated research student
2	Female, Post-graduated research student
3	Female, academic staff
4	Male, academic staff
5	Male, academic staff
6	Male, academic staff
7	Male, Post-graduated research student
8	Female, academic staff
9	Female, Post-graduated research student
10	Female, Post-graduated research student

The interviews were conducted using a semi-structured interview format, and focused on a hypothetical travel scenario to Phuket in Thailand. Each interviewee was asked to access hypothetical travel website # 9 used in Experiment Two because it contains a large number of travel products and services that would cover basic and additional needs for the trip. Then they were asked to follow the instructions and respond to questions during the interview exercise. Since the experimental results revealed that approximately 39% of the variability in customers' future shopping behaviour could be explained by customers' perceived value of complementary products and/or services offered, including product component, product range, online services and offline services, these interviews were intended to help increase the triangulation of the study in confirming the factors affecting customers' perceived value of products and services offered by e-business as well as their shopping behaviours.

This chapter is organised into three parts. First, shopping behaviour is examined in relation to interviewees' shopping for travel products online. Second, the selection criteria used to choose products and services are presented. Finally, the criteria for choosing the website for purchasing travel products and/or services are evaluated. A presentation of the major themes and sub-themes organised around the research questions follows.

5.2 Shopping Behaviour

This section describes the shopping behaviours of the 10 interviewees who participated in this study when shopping for travel products online. In the interview process, interviewees were asked to follow the interview exercise and instructions given to them in the scenarios (see Appendix M). They were instructed to book airline tickets

(the main product) to Phuket, Thailand for the period 1-8 December 2007 and then to browse through other complementary products and/or services for their travel needs within a given budget. The interview exercise revealed two characteristics that were important in interviewees' shopping behaviours: price-orientation and product-orientation.

5.2.1 Price-Orientation

Interviewees who revealed price-orientation in their decision-making process wanted to find the cheapest price for every travel product and/or service needed for their travel. They enjoyed shopping from individual websites, such as hotel websites, and making a price comparison among the travel websites. They said they would search for information from these travel websites but would not make a booking. They would go to the one that offers the cheapest price or go to an individual website and negotiate to obtain a cheaper price. The following is the exemplar of Interviewee Two when booking airline tickets and other products and services for the trip from Melbourne to Phuket. The interview started after Interviewee Two accessed travel website #9 used in the interview as shown in Figure 5.1.
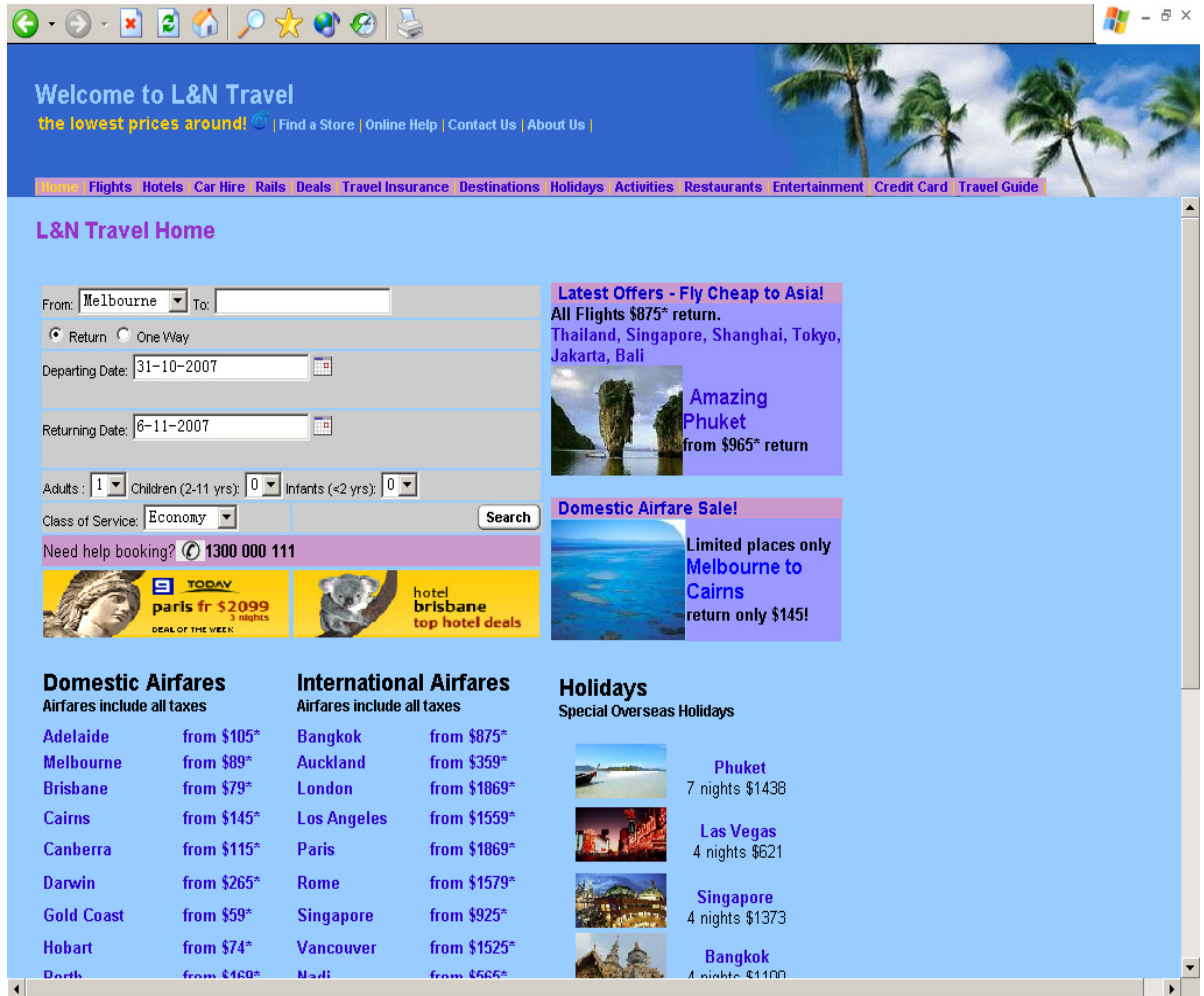
Figure 5.1 Travel Website #9 Home Page Used in the Interviews

Interviewee: This is nice, travel from Melbourne to Phuket, return.

(After entering information to search for the airline tickets, the interviewee was looking at the prices on the fare guide page, as shown in Figure 5.2)

Welcome to L&N Travel
the lowest prices around! | Find a Store | My Booking | Online Help | Contact Us | About Us |

Home Flights Hotels Car Hire Rails Deals Travel Insurance Destinations Holidays Activities Restaurants Entertainment Credit Card Travel Guide

Select>>   Book>>   Verify>>   Confirm

International Fare Guide

Return flights departing **Melbourne (Australia)** flying to **Phuket (Thailand)**
9 low-price flight combinations are listed below.

| 2343.36 AUD Total for ALL passengers, incl. taxes/fees | 1 Outbound flight(s) and 1 Inbound flight(s) available | | → BOOK ONLINE |

Outbound flight(s)
Departure on 01/12/2007
Total travel time between 12 hour(s) 50 minute(s) and 15 hour(s) 35 minute(s)

Thai Airways - (TG)
Melbourne - Tullamarine International Airport - (MEL)   1 Connection
23:30h, 23:30h, 23:30h (Departures on 01/12/2007)
Phuket - (HKT)
10:30h, 09:20h, 12:05h (Arrivals on 02/12/2007)

Inbound flight(s)
Return on 08/12/2007
Total travel time between 11 hour(s) 30 minute(s) and 15 hour(s) 10 minute(s)

Thai Airways - (TG)
Phuket - (HKT)   1 Connection
21:35h, 19:00h, 17:55h ... (Departures on 08/12/2007)
Melbourne - Tullamarine International Airport - (MEL)
12:05h, 12:05h, 12:05h ... (Arrivals on 09/12/2007)

Airfare calculation

	Airfares	Taxes/Fees	Total Airfares	service fees per person	Total
1 Adult	875.00 AUD	266.68 AUD	1141.68 AUD	30.00 AUD	1171.68 AUD
Total (2 x Adults)	1750.00 AUD	533.36 AUD	2283.36 AUD	60.00 AUD	2343.36 AUD

2780.72 AUD   1 Outbound flight(s) and   BOOK ONLINE

Figure 5.2 Air Tickets Fare Guide Information Page

Interviewee: Thai Airways costs me $2,343. I have one question: is $5,000 for both of us or for each of us?

Interviewer: It's for both of you.

Interviewee: Right. The total is $2,343—it's so expensive, isn't it? My airline is also expensive: Malaysia. So, we have Thai Airways $2,343. We have Malaysia Airlines, it's quite expensive Malaysia, oh! It is much more expensive than I thought. I think the more it shows, the more it's expensive, isn't it? So, I'm going with Thai Airways.

Interviewer: Why do you choose Thai Airways?
Interviewee: It's cheap.
Interviewer: Do you have any other reasons?

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Interviewee: No, I can't think of other reasons. Let me check. How much is Malaysia Airlines? It costs me $300 more than Thai Airways. So, I can bring my food inside Thai Airways or I can ask them to give me vegetable food. So, I choose Thai Airways.

Do I have to do these things? (Key in personal information for booking)

Interviewer: Yes, you have to do some things as if you are really booking on the Internet.

Interviewee: Do I need to enter my credit card number?

Interviewer: Why are you asking about that?

Interviewee: Because this is your study. If it is the real one I am going to enter it.

From Interviewee Two's point of view, her main concern was the cheapest price when choosing an airline. She did not care much about other factors or issues, such as services on the plane. Thus, she chose Thai Airways which offered her the cheapest price for this trip in comparison to other airlines.

Interviewer: Have you a concern about the security of your credit card?

Interviewee: No, I don't have any concern about the security, so far so good. It has never ever happened to me. I'm not saying that it won't happen to me but I've been lucky so far. When I'm buying online, the company is not charging more than that. Well, if it does happen, I just call them and cancel it. For example, when I wanted to enter the number of my credit card and then something was wrong with the networks. I had to call them saying that there was something wrong with your website during my purchasing and then they cancelled it for me. I had to order it again.

Interviewer: This is the end of the first task of online airline booking. This means that you are able to book your ticket online and I would like to know what other facilities or online services you want from the travel website.

Interviewee: Ok. What happens, frankly speaking, when purchasing an airline ticket, I'm a regular customer in purchasing an airline ticket online. I'm not looking at the hotel or anything because I would prefer to look at each individual website. For example, if I'm going to Phuket, I Google it, 'Phuket hotel', and then I will look at the individual website. I'm looking at the scenery first. I love driving

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and snorkelling and the beach so much. I will try to find a hotel that is quite cheap. I am really concerned about the budget. I will try to save money and find a moderate accommodation. It's not so cheap but it is very comfortable and affordable. That is the most important thing. Because I have this kind of experience. I'm very crazy about the budget.

Interviewee Two was not concerned much about using a credit card online because if there is any problem, she can call the company and cancel the order. When Interviewee Two searched for a hotel, price was again the main concern for her. She was really concerned about her budget and tried to save her money. Therefore, she preferred to shop around on individual websites, such as hotel websites, rather than on a travel website. She compared the prices and selected the one that offered her a good price for a good standard of hotel accommodation.

Interviewer: Regarding online booking, besides online booking services facilities, what other online services do you want? I mean after booking you might want to track your bookings status online or use other self-services online.

Interviewee: In Malaysia, when I buy the airline ticket, I have my own account. They know that I am a regular customer. So what I love the most about the website is they have the customer purchase history for a particular year. So, I just look at what I had bought. Sometimes my relative asks me to buy for eight people. Let's say during that time if we have this kind of discount, it is more affordable to buy at that time rather than after that. I just click on it and I can look at my account. It's very nice. But for this website, I'm just looking at the hotel but I won't buy it. I just look at it, the price, everything, facilities, policies, and look at whether it is negotiable rather than purchasing it. By looking at the website individually, then, I will call them, if I want to book. For example, how much cost I can bear. I will call. I'd rather pay my phone rather than to pay more for the hotel.

Interviewer: So, you consider the price first.

Interviewee: Yes the price. Price is very important. I mean if the price comes with a comfortable place, which I want. Let's say, I love beaches, I have my preference I will go for my preference.

Interviewer: You mean you will search for information from this site but not exactly buy from this site.

Interviewee: Yes, I'll look at it but I won't buy. If you look for a car hire, I'm an Asian I know that if I go to that place I may negotiate with the right kind of people and I will get a much cheaper car. I'm an Asian, I know how Asians work. I'm not a metropolitan European. Let see, if I'm going to a European country, I might consider hiring a car. I do not get used to the environment. But you are talking about Phuket. I'm living at the border of Thailand and Malaysia, I know how Thai people work. You know, it is like visiting your own country. I don't think there is a problem for me.

Interviewer: It means you won't book a car when travelling to Phuket.

Interviewee: I won't book a car. If I need a car I will go to the airport first, and then I will take a taxi to the hotel. And then I will ask a taxi driver if there is a register car that is much cheaper. I mean I will use a taxi first, and then if hiring a car is cheaper I will hire a car. Wow wow wow, let's see. If I am staying at Phuket, I'm not going to travel anywhere, I will not need a car. And I will use Tuk-Tuk, it costs only 10 Baht, and it is cheaper and wonderful. I can get more experience riding a Tuk-Tuk for my travel. I like it. I have many experiences in my travel time at Had-Yai. I think for tourists, it's much better to experience the culture. It is the culture of Thai people to travel using a Tuk-Tuk so you can feel the culture.

Interviewee Two wanted to have access to a member services where she can find special offers. Also, when looking for car hire, Interviewee Two mentioned that she would search from individual websites to compare prices. She said she would use a travel website for searching for information, but not for purchasing. Interviewee Two tried to find how she could get cheap transportation during her trip. She mentioned that she would not hire a car for her trip. First, she would plan to use a taxi since it might be cheaper than hiring a car. Then she realised that she had experienced riding a Tuk-Tuk (a three-wheel car, which is commonly used local transportation) in Thailand which is very cheap. It costs her only 10 Baht (35 cents) for an average drive. She also mentioned that in this way you can get the real experience of Thai culture. Thus, she said she would use a Tuk-Tuk during her trip instead of hiring a car or using a taxi to save her money.

Interviewer: From the offerings on the website, what other products or services will you need for your travel?

Interviewee: I would like to have, let's see, a hotel? This is nice, $76 dollar per night, good.

Interviewer: Why did you choose that hotel?

Interviewee: I'm looking at the one that suits my preference and looking at what they offer. For example, before I'm looking for the hotel, I will look at the individual websites. I will Google for the beach and look at the map of Phuket to find the best beach. Let's say Beach A, so I'm going to look at the hotels and facilities at Beach A.

Interviewer: So, you are looking at the location first, aren't you?

Interviewee: Yes, I'm looking at the location first, absolutely. I think Phuket is also good for shopping, isn't it? So, if I want to visit Phuket because of shopping, I will prefer to have a place that is close to the city. It also depends on my friend. If my friend's interest is like me—love snorkelling and the beach, not for shopping—we will stay near the beach. If we want to go shopping, we may be use a Tuk-Tuk.

Interviewer: Why do you click on the 'Hotels' first?

Interviewee: Because I'm just looking for it.

Interviewer: Why are you looking for it, not for something else?

Interviewee: Because hotel is the first thing that I'm looking for. The first thing in my eyes now is just hotels.

Interviewer: Is it necessary for your trip?

Interviewee: Yes, it is. That's why I'm looking for a clue. I try to find where is the location, let's see Patong Beach, I'll look at what kinds of hotels are located at Patong Beach for an idea. And I will go onto individual websites for these hotels. That is my style.

Interviewer: What else are you looking for for your trip?

Interviewee: Let's see here hotels, cars, rail, what is rail?

Besides airline tickets, Interviewee Two was also looking for complementary goods and services, such as a hotel, since it is necessary for her trip. As she mentioned previously, she prefers to search for hotel information and facilities from

individual hotel websites at the desired destination rather than from a travel website. Then, she will choose the one that offers her a good price for a good standard.

Interviewer: It's travel by train.
Interviewee: Okay. It's a train to Vietnam or Cambodia, isn't it? I don't like travel by rail.

Interviewer: Why don't you like travel by rail?
Interviewee: Because my intention is to go to Phuket and not to use any train. Well, if I have a lot of money and time, I might think about that. In Malaysia, the same as Thailand, if I want to go back to my family home town, I will use a train. It does not attract me for this trip.

Interviewer: Why do you click on 'Deals'?
Interviewee: It seems to attract me. I love vacation. I can plan another vacation by looking at this.

Interviewer: Does it mean that you are looking for special offers from the 'Deals'?
Interviewee: Yes of course, everyday. You know, what we do while we are working, me and my friends, we check the websites. We will check the website and find out where they are offering us free tickets. (Then the interviewee is looking at 'Travel insurance' offered on the website.) I won't buy for travel insurance.

Interviewer: Why not?
Interviewee: To save my money, if I travel locally. But in this case, I will buy it because I'm going overseas. If something happens, if I lost my luggage. Oops! So expensive here.

Interviewer: No, that is not the fee for travel insurance; the fee is shown at the first line.
Interviewee: $121, okay, I buy it. When I went to Thailand previously, I also bought travel insurance.

Interviewer: Why do you click on 'Holidays'?
Interviewee: Just want to browse it. This is a good price. Why is this one cheaper than Phuket?
Interviewer: I'm not sure.
Interviewee: We should look at it.
Interviewer: You cannot see the details because this is only the exercise to go to Phuket.

Interviewee: Anything else, restaurants?

Interviewer: Are you looking for restaurants in Phuket as well?
Interviewee: Yes, but there is no halal food, no Muslim food, so I choose fish and seafood.

Interviewer: So, are you looking for restaurants and entertainment too?
Interviewee: No. I just click on them.
(Then the interviewee is looking at the Travel guide.)
What is 'Travel guide'? Oh! I will click on currency information. Everyday I use it because I'm interested in finance. I'm looking for currency information.

Interviewee Two was not interested in travel products that cost a lot of money such as rail. Instead, she was interested in travel products that were quite cheap and important for her, for example, travel insurance. She was also interested in the 'Deals', a complementary service offered by the travel website, since she might get a good offer. She prefers to look around for restaurant and entertainment information rather than book from this website. She was also interested in travel information services such as currency information and travel advice.

Interviewer: Will you look at 'Visa information' too?
Interviewee: No, I will not look at it. Thailand and Malaysia, we have visa agreement. We don't need any visa. I won't click on this one ('Lonely planet') but I will click on this one ('Travel advice').

Interviewer: Why do you click on 'Travel advice'?
Interviewee: Because this is good for you to get to know about the trip. For example, before I came here I looked at the advice about what I have to wear: jacket, immigration, custom. That is the thing to look at.
(Then, the interviewee is looking at 'Credit card' services.)
Not a credit card.

Interviewer: Why not?
Interviewee: Because I already have my own credit card and because I'm a financier, I'm very concerned about my money, I don't need a lot of credit cards. If you have a lot of credit cards you have to pay more for the fees. You just need a reliable credit card from a very reliable

> bank and you can achieve everything you want. You need only one or two credit cards.

Interviewer: From this website, do you think you need anything else?

Interviewee: No. I don't need a store. After 'Flights', 'Hotels' and 'Car hire', I have finished.

In conclusion, this scenario shows an example of a price-orientated customer's behaviour from Interviewee Two who is concerned about her budget. The major criterion used to select products or services for Interviewee Two is the cheap price. For price-oriented customers, value for money is more important than other values, such as shopping convenience. They do not perceive the convenience of having all the products offered for their travel needs on one website. They prefer to shop around and compare prices. For example, Interviewee Two preferred to shop from individual websites and compare the prices with travel websites. She preferred to purchase from an individual website since she can negotiate to obtain a cheaper price.

Since Interviewee Two is price-oriented, she tried to minimise her budget for the trip by focusing only on complementary products or services that are necessary for her trip, such as a hotel and travel insurance. She also looked for useful information such as travel advice and currency information but she was not interested in other products or services, such as car hire, activities, restaurants or entertainment, offered by the travel website. As mentioned by Interviewee Two, she just looked through these for ideas, but would not purchase them since they are not necessary. This might be one of the reasons to support Hypothesis 1's results in Chapter 4: that related products and services offered together with a flight were not perceived as a value for customers since customers do not need them.

Therefore, in order to attract price-oriented customers to visit the website, a travel website should consider offering customers special deals for travel products such as hotels, car hire and/or holidays. This might turn the customer from browsing to purchasing the product at the end of their search.

5.2.2 Product-Orientation

Another customer behaviour revealed from the interviews was product-orientation. When shopping for airline tickets and other travel products or services, the interviewees who were product-oriented, besides purchasing airline tickets, thought about other travel products or services for their travel needs from the travel website. Product-oriented interviewees wanted the convenience of booking all the products and services needed from one website, such as hotels, restaurants, activities, and/or entertainment in Phuket. They did not want to spend too much time searching for products or services required. They chose products and services needed for their trip offered by the travel website. They calculated how much budget was needed for complementary products and services and then calculated how much was left for the airline tickets. If they had money left over, they considered booking a good quality airline, based on their experience. They care more about the quality of service than a cheap price, especially for a long flight. The example provided by Interview Three is shown below.

Interviewee Three was asked to read through travel information and instructions for booking airline tickets and other products and services for their trip from Melbourne to Phuket. Interviewee Three was then asked to access the hypothetical travel website used in the interview as shown in Figure 5.1 below.
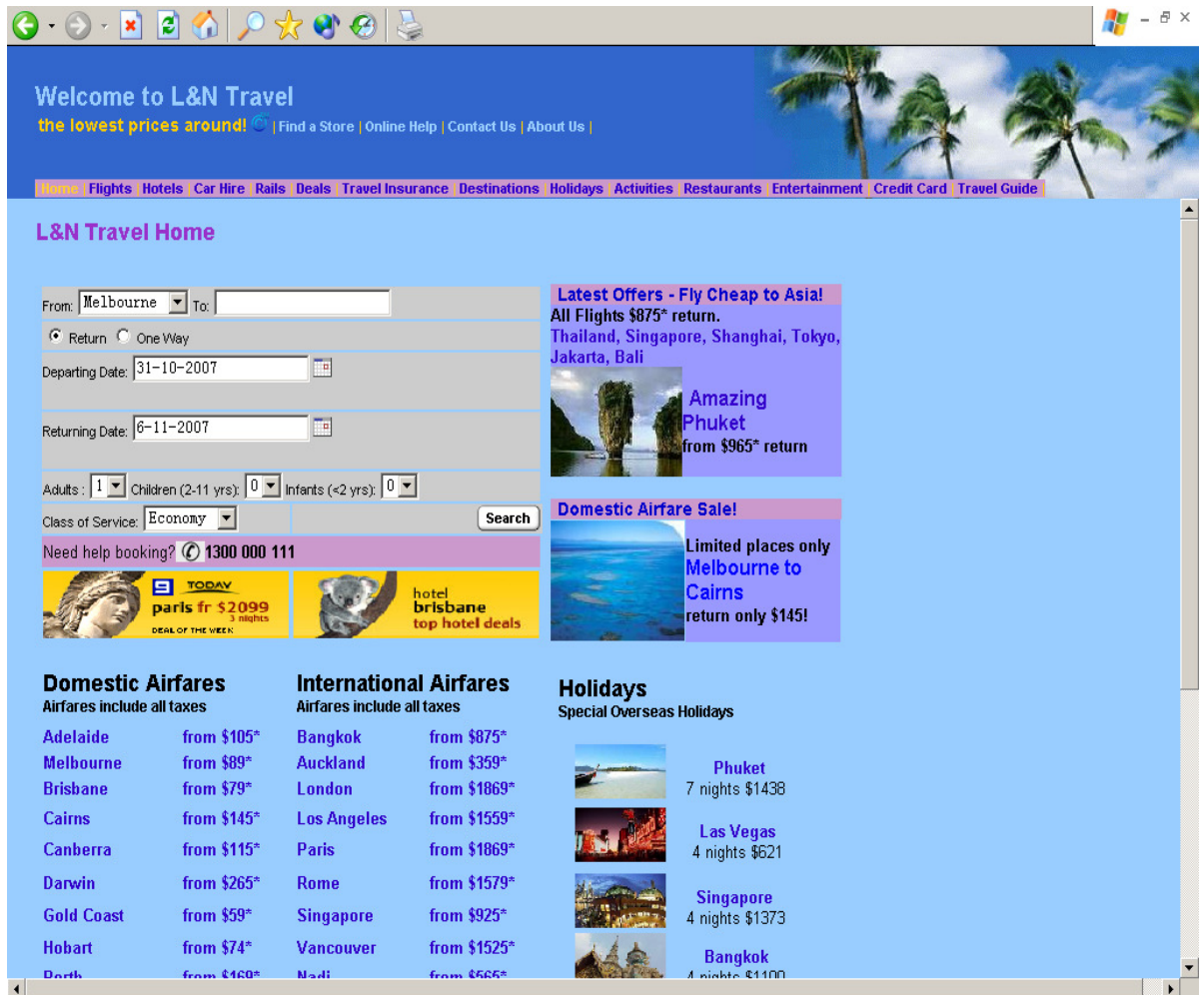
Figure 5.1 Travel Website #9 Home Page Used in the Interview (repeated)

Interviewee: Oh! Wow! Did you design it yourself?
Interviewer: Yes, with help from Lauren.
Interviewee: It looks professional. I'm sure I will use it. It's very nice.
(The interviewee then followed the flights booking instructions)
Okay, booking for airline tickets first. Oh! It's so nice, fantastic.
That's a long holiday. Okay, wow! Nice. So, I book online.
(When the choice of airlines page appeared as shown in Figure 5.2
below, she chose Thai Airways.)

Figure 5.2 Air Tickets Fare Guide Information Page (repeated)

Interviewer: Why did you choose Thai Airways?
Interviewee: Oh! I just quickly chose. Okay, afternoon flight. Oh! I don't like midnight flights. Thai Airways is $2,500, the other one is $2,700. Wow! No wonder I need so much money, it is so expensive.

Interviewer: The price here is for two adults.
Interviewee: So, one is $1,100, it's still quite expensive. Thai Airways is an early morning flight. (The interviewee is looking through the departure times.) I think, can I go the other way round? Do I need to buy other products as well?

Interviewer: Yes, if you need.
Interviewee: I will probably do it another way because I need to know what sort of products I need. I have to plan how much money I have left, then I will be back and select the flights. It is because when I looked at the timing, it's not the time I really want, either too early or too late. So, is that alright? I don't really need to book air tickets now. Can I do it another way round?

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Interviewer: Yes, you can.

Interviewee: I need probably to find out something. I have $5,000, I need to know the hotel, then what sort of activities I want. Then I will go back to the flights. That is what I normally do.

In this example, the major concern for Interviewee Three in selecting the flight is the departure time. Since the departure time did not match what she wants, she was willing to choose the flight as the last item from the money left over from her budget after choosing other complementary products and services. In this case, Interviewee Three is going to plan for her trip first. That is, she is going to plan what complementary products and services she might need, such as the activities she would like to do during her trip and how much she is going to spend for these activities within the $5,000 budget. Then, she will go back to choose the flight, the cost of which will then depend on how much money is left from all the other activities and/or expenses.

The interviewee then searched for a hotel from the 'Hotels' page as shown in Figure 5.3.

Figure 5.3 Choice of Hotels Page

Interviewer: How do you choose the hotel?
Interviewee: I select the type of the hotel dependent on the country. For example, if I go to Cambodia, I am going to make sure that I find a good hotel, having a four or five star rating. But if I come to Melbourne or Sydney or the US maybe two-and-a-half or three stars is all right because it's quite standard and secure. If it's Phuket, I think it's alright because most hotels there have a lot of European and international visitors. In terms of the hotel I can go to, maybe a three-star hotel will be not that expensive and a chalet is even better. I'm not sure how a chalet is, but can I click here? That looks nice, we have the resort, I start with the resort. Holiday Inn's also good.

Interviewer: What criteria do you use when looking for a hotel?
Interviewee: When I look for a hotel, I look for the type. If your website has a search by resorts, and pop up resorts for me, that is the best. But your website doesn't have one now. This is an apartment type. This is a beach resort, this is a hotel type. I'm looking for a resort.

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Interviewer: Why are you looking for a resort?
Interviewee: Because I'm going to the beach. It's better to choose a resort rather than a hotel. When you choose the resort, you live by the seaside. If you stay in the hotel, you can't feel the resort, the tropics or the sea.

Interviewer: So, you are looking at the type of hotel first.
Interviewee: The resorts. Beach resorts are very interesting, very authentic. When I go to the seaside like Phuket, I probably choose a very authentic and local type of resort rather than an international hotel that doesn't make me feel like I'm living in Thailand or Phuket. I like this type of resort and this type is perfect. It costs me only $40 per night. It looks nice and real local tropical Thai. It's also cheap and has four stars, oh wow!
(The interviewee is still reading through the resort information.) Oh, that's a good price, including taxes and services and breakfast. It also provides us with a fitness centre and dining options. The restaurant looks nice with a sort of jazz music?

Interviewer: I don't know. I think you should read from the hotel policy.
Interviewee: (The interviewee is still reading through the resort information.) Oh, that's a good price, including taxes and services and breakfast. It also provides us with a fitness centre and dining options. The restaurant looks nice with a sort of jazz music.

> The first complementary product or service that Interviewee Three was looking for was a hotel. When looking for a hotel, Interviewee Three's main concern was the type of the hotel as well as the standard and security which depends on the country she travels to. For Phuket, she looked at a resort, then she looked at the price and other services provided such as a fitness centre, dining options and a restaurant. In choosing the hotel in Phuket, she liked to have a very authentic and local type of resort where she can stay by the seaside and feel like she is living in Thailand.

Interviewer: What else do you want for your travel?
Interviewee: After I do that (booking the hotel) I need to know about activities. Oh! The website doesn't have attractions for us.

Interviewer: Yes, it has. It's in the 'Activities'. You just choose Phuket from the 'Activities' page.
Interviewee: Okay, that is what I expect to look at. Is it the price for one person?
Interviewer: Yes it is.

Interviewee: Okay, let me see, the price for eight days for the hotel is about $220.

I think I am done. So I can spend for a coral island tour and a half an hour boat tour. Do you have a day tour or a package tour in your website?

Interviewer: No, there are no package tours provided. They are individual tours categorised by activities, such as beaches, dives, spa and sauna, and nature.

Interviewee: (The interviewee is now looking at the activities information.) Some websites for this particular tour, they tell me how long it is going to take, so I can arrange my time. This is a day tour. It takes eight hours so I plan for one day. So one day I have a full day tour in a southern area and then I can have two different separate tours, one is in a modern fashion and I will spend the rest of my day on the beach.

Interviewer: So, you need more information about each tour.

Interviewee: Yes, for example, how long it will take. Then I can better arrange my tour. You have 1,2,3,4,5 (activities) because I'm going to be there for eight days.

Interviewer: I think that is the day tour because it's quite far.

Interviewee: Do they provide a pick-up?

Interviewer: Yes, I think.

Interviewee: So, probably I will get activities 1, 2, and 3, in total $870 and another $200 for a resort. So, I think I can spend $1,000 on my activities and a resort. If I'm going to eat a lot, I will spend another $1,000, and then I have $3,000 left, so I can book a flight then. I'm going to Phuket, I don't want China Airlines. If I choose this flight, I will arrive in Phuket at 9.00 am. Oh, there are so many transits. I will choose a direct flight. On Thai Airways, the food is not good. Let me see the other Thai Airways. Oh, there are too many transits and it's too expensive. So, I choose Singapore Airlines.

Interviewer: Why do you choose Singapore Airlines?

Interviewee: I like Singapore Airlines because first the airline is in fashion, and second is the timing. My main concern is how much money I have left, because I have about $3,000. I don't have to compromise by selecting either Thai Airways, Malaysia Airlines or China Airlines. So, the first thing is the price, followed by the brand name.

Interviewer: Do you mean the price that you can afford?

Interviewee: You look at the quality and experience of the flight. That is important because it is a long journey, and then, followed by the timing. I am so scared if there are so many stopovers. I also consider the food that they provide. On Singapore Airlines, the food is good. Entertainment service is good as well. In terms of safety, China Airline is not the best. If I can afford it, I will choose Singapore Airlines.

For Interviewee Three, from the budget available, she first planned for products or services or activities for her trip, and calculated how much money she was going to spend and how much money was left to book a flight. Within the budget for the flight, her main concern was the airline brand name. She chose the airline that provided her with a good quality and experience on the flight including food, entertainment and safety. Next she would consider the timing and that there should not be too many stopovers.

For product-oriented customers, the first consideration is complementary travel products or services provided by that company. For example, Interviewee Three was looking at a hotel, activities, restaurants and entertainment for her trip together with the flight booking. Then Interviewee Three looked at the price and the services provided when choosing a particular offer. For example, when choosing a hotel, Interviewee Three chose a resort hotel that provides a fitness centre, dining options and a good restaurant. The brand name is also important for this kind of customer since it represents a certain standard of services provided by the company such as in the case of airline selection. Product-orientated customers care about the products and services more than price. To satisfy this kind of customer, therefore, the travel products come first followed by good service and the third consideration is price. To attract product-oriented customers, therefore, a travel website should consider providing a variety of services for customers to choose from, as well as a lot of information for customers to assist in their decision-making, including price.

It can be concluded that a wide product range can be used to attract product-oriented customers to visit travel websites, rather than considering price alone. A wide product range offering will add value to customers' shopping experience, i.e. shopping convenience, which goes beyond saving money. This finding supports the experimental

results outlined in Chapter 4, Hypothesis 2, that a wide rather than narrow product range offering can enhance customers' perceived value.

5.2.3 Summary

The interviews revealed two types of interviewees' shopping behaviour: price- vs. product-oriented customers. Price-oriented interviewees preferred to shop by searching for the cheapest product or service from individual websites rather than booking from a travel website and limiting their purchasing to a few necessary products and services, such as hotels and travel insurance. Customers' needs, therefore, may be one reason used to support Hypothesis 1, specifically why related products and services offered together with the flight did not appear to enhance customer value.

In contrast, product-oriented interviewees preferred to shop from a travel website that offered them a wide range of products and services needed for their trip. They wanted to save their time by shopping from one travel website that offered greater convenience of shopping. A wide product range offering, therefore, can be used to enhance customer value of the offerings since it brings shopping convenience to customers.

Therefore, offering a wide range of products and services might help capture the different needs of customers and enhance the value of the offerings as the results of in Hypothesis 2 in Chapter 4 showed.

5.3 Travel Product Choice Criteria

In this section, the criteria that interviewees used to choose their airline tickets as well as other travel products are reported.

5.3.1 Airline Ticket Booking Exercise

In this exercise, the interviewees were asked to perform an online airline booking exercise by selecting their preferred airline to travel to Phuket, Thailand for a holiday. The following questions were asked to understand the interviewees' selection criteria.

Why do you choose that particular airline?

The most important reason the interviewees gave for choosing an airline was price. Six interviewees chose the airline that offered the cheapest price. Interviewee Five mentioned: 'I chose the cheapest one.' Interviewee Six commented: 'Because it is the cheapest.' Additionally, Interviewee Four stated: 'In this condition, where travel times look almost the same, I definitely choose the cheapest price.' Some interviewees reported that they considered the quality of the airline and the price that they can afford in their budget, not necessarily the cheapest price. As reported by Interviewee Nine: 'I will choose Singapore Airlines because the price is okay compared to others. It is not really expensive and the most important thing is with Singapore Airlines, the service is very good.' Interviewees also considered services offered by the airline, for instance food, entertainment and games. They referred to this as the quality and experience of the flight. If interviewees can afford it, they are willing to pay a little more money to receive better service on the plane, such as the inclusion of food or movies. Interviewee Nine reported: 'I think if I travel from Melbourne to Phuket, the travel product or airline tickets must be

something the same. So, I care about the service quality. I care about the travel products themselves and then the price.'

The second reason for those who chose a specific airline was brand name. Some interviewees stuck with the airline with which they were familiar or have flown with previously, or where they could get frequent flyer points. Interviewee Eight stated: 'Because I know this one (Singapore Airlines) so I chose this one.' Additionally, loyalty programs offered by the airline company have an influence on their selections. For example, Interviewee Nine commented: 'And because I have Singapore frequent flyer, so I care about that. I want to accumulate my miles.'

Finally, the travel time and whether or not the flight was a direct flight were the other reasons to select a particular airline. Some interviewees preferred to spend a shorter flight time in order to have more time at the destination. Interviewee Four stated: 'If you have a very short time, you really want to maximise the amount of time spent in Phuket. Therefore, you had better paid a bit more money to save the time.'

Overall, when selecting an airline for their trip to Phuket, interviewees considered the cheapest price, quality of the airline, frequent flyer points, and/or the option of a direct flight. These criteria can be used as guidelines for an online travel agency to draw customers' attention to their website.

Besides the ability to book online, what other online self-service facilities do you want?

Besides the ability to book online, interviewees wanted a travel website to provide them with the ability to track and change their bookings online. In the interview website, customers could check the status of their bookings via a 'My booking' service. Since

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interviewees did not perform real bookings in the interview exercise, they were not able to use this service to check their bookings status. However, three interviewees who clicked on 'My booking' commented that such a service is useful for them to check their booking status and that they do expect these services to be provided by a travel website. Interviewee Seven stated: 'I think this one (my booking) is important to track the status of my booking.' Additionally, Interview One stated: 'Normally, the services about checking the status of bookings or changing bookings online should be provided by every travel website.' This confirms the finding of Hypothesis 3 in Chapter 4 that providing a greater online complementary self-service facility can enhance customer value of the offerings since these offerings meet customer expectations.

5.3.2 Other Travel Products and/or Services Needed for the Trip

In this exercise, the interviewee was asked to select other travel products needed for his/her trip to Phuket besides airline tickets. The following question was then asked.

Besides airline tickets, what other products or services are you going to choose for your trip? Why?

Overall, there were two types of interviewee responses to this question. First, there were the interviewees who had travel plans in mind, besides purchasing airline tickets, who thought about other travel products or services to meet their travel needs, such as hotels, restaurants, activities and/or entertainment. Interviewee Six stated: 'Before I book the flight, I want to have a look at what else I need.' This is similar to Interviewee Three, who commented: 'I need to know what sort of products I need. I have $5,000, I need to know the hotel, then what sort of activities I want.' In contrast, some interviewees had no plan in mind. They could not think about other complementary products or services beyond a hotel reservation for their vacation. This kind of

interviewee needed time to search for information and plan their trip before going to this website and completing their bookings. Interviewee Ten mentioned: 'If I have a holiday here in Phuket, probably I need to gather more information about what I can do, what I can see there, probably before I make a decision to go to the Phuket. So, I have some ideas of what can I do there.'

This finding showed that the interviewees who had no travel plans in mind were not concerned with the complementary products and services offered by a travel website because they did not yet know what they wanted for their trip. They required more time to plan their trip. This might be another reason to explain why closely related complementary product and service components offered did not enhance customer value as found previously in Hypothesis 1.

Some of the main complementary products or services considered are summarised below.

- **Hotels**

All of interviewees reported that they were looking for a hotel because they needed accommodation or somewhere to stay in Phuket. Interviewee Four stated: 'Because I am looking for my trip, I need somewhere to stay.' They first looked at the destination and then found somewhere near that destination. Several of them wanted to find a resort that was near the beach in order to relax, be close to nature and provide them with a local, more authentic cultural experience, for an affordable price. Interviewee Nine mentioned: 'When I travel to Phuket, I like to stay in a resort hotel because I care about facilities and I want to have a sea view, near the sea and the beach.' This is similar to Interviewee Three, who stated: 'When I go to the seaside like Phuket, I probably choose a

very authentic and a local type of resort rather than an international hotel that doesn't make me feel like I'm living in Thailand or Phuket.' The choices of hotels in the interview exercise are shown in Figure 5.3 below.

Figure 5.3 Choice of Hotels Page (repeated)

Three interviewees reported that they would compare the price on the travel website to individual hotel websites and go for the cheaper site. Interviewee Six commented: 'If the flight is cheaper (on a travel website) but an accommodation is cheaper somewhere else, I might go to that. I might shop around a bit, check up before booking the flight. For what sort of accommodation, I probably search from *wotif.com* or

some other sites, and do a comparison.' However, when they have had a positive experience with a particular travel website they will stick with that website. Interviewee Six stated: 'Sometimes if you feel comfortable with the site, if you use it a few times, you do not need to do a comparison.'

- **Car Hire**

Six interviewees did not want to hire a car for their trip. This is because they thought they would stick to just one location for their holiday, so they would not need a car. Interviewee Four commented: 'I'm going to spend all the time in Phuket and my main objective in going to Phuket is to relax. I don't want to worry about driving a car. I will just pay for local transport.' Further, they wanted to experience the local transportation, such as the Tuk-Tuk (small, three-wheel, open-air car), or a song taw (two-row, open-air small bus). This comment came from those who know Thailand well. Interviewee Two stated: 'I will use Tuk-Tuk, it costs me only 10 Baht, it is cheaper and you can get more experience riding on a Tuk-Tuk for my travel.' Another reason given for not hiring a car is that they might find it from the hotel. Interviewee Ten mentioned: 'If I want to go in one place, probably I don't need a car, just stay in the central part. I don't need it so I don't need to look at that one. Or if I need later, I might do this in the hotel.'

Four interviewees wanted to drive in Phuket. They wanted to explore Phuket by themselves. When choosing a car they wanted one in good condition rather than a cheap car because they did not want to have problems with a broken car. Interviewee Seven commented: 'I don't want the cheap one that is broken. I want one which is okay, that won't break down.'

- **Travel Insurance**

For interviewees who needed travel insurance, their rationale was their safety during their travels, especially when travelling overseas. Interviewee Two stated: 'I will buy it (travel insurance) because I'm going overseas. In case something happens, if I lost my luggage.' Some interviewees were concerned about their medical fees while travelling overseas. Interviewee One mentioned: 'I chose travel insurance because if there is a problem during my travels, I don't need to pay for medication.' However, Interviewee Three commented that it depended on the country she visits and the length of her stay. If she is going to a Western country, and is staying longer than one week, she might consider purchasing travel insurance since the medical fee would be expensive in these countries. In this case, however, she would be going to Phuket, located in South East Asia. She would not then buy travel insurance because medical fees are not expensive in Thailand. She stated:

> 'I do have insurance, so I don't quite rely on travel insurance, unless I go to the country like the US, I will definitely buy travel insurance because the US medical fee is expensive, and in Sweden and Europe, I will definitely buy. And if I travel more than one week I will buy travel insurance, if I'm going to Phuket, Cambodia, or even Malaysia, Southeast Asia, within a week I won't buy travel insurance.'

- **Deals**

Seven interviewees reported that they would click through 'Deals' to find special offers from the company. Interviewee Two mentioned: 'It seems to attract me. I love vacations. I can plan another vacation by looking at this (the deals).' Interviewee Four stated: 'I think "Deals" services are quite good, we can find a special offer.'

It can be concluded that price was a common factor that interviewees used in determining their choice from the selection. Other criteria were varied depending on the complementary products or services offered. For airline tickets, besides the cheapest

price, interviewees wanted to receive good service and often went with a familiar airline name. Additionally, the choice of hotel was often based on the location, service (star rating), and then the price they could afford. Similarly, for car hire interviewees looked for a car in good condition at an affordable price.

However, the interviewees reported that they were not interested in some complementary travel products offered, such as 'Rail' and 'Credit cards' services, because these complementary services were not necessary for their trip. In the case of 'Rail' services, Interviewee Two commented: 'Because my intention is to go to Phuket and not to use any train.' The 'Credit cards' service was also not of interest as a complementary service for the interviewees. Interviewee Nine commented: 'I don't care about "Credit cards" because I have many credit cards.' Interviewee Five also supported that the 'Credit cards' service was not necessary for him, explaining: 'Credit card information—probably not because I already have my credit card.'

Besides offering products and services, the experimental website also provided other information for travellers, such as travel guides and information about the travel company, the details of which are presented in the following.

- **Travel Guide**

Nine interviewees who clicked through 'Travel Guide' commented that travel guide information was very useful for their journey to know about the weather, money conversion, visas etc., so they can prepare themselves beforehand. Interviewee Eight commented: 'This travel guide information is very good, because I would like to know in terms of what is the temperature or things like that. When people travel to another country, they don't have an idea of what clothes to take, or whether it's going to be hot,

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cool, or going to be raining all the time, so, if they know, can get some kind of forecast, so they can prepare.' Interviewee Two stated: 'Maybe I want to see what I can do to save money, to plan my trip, to see a map, to find a road, this information is useful.'

- **About Us**

Three interviewees who clicked through 'About Us' stated that they would read through this information first in order to get to know the company and check the company's credibility. Interviewee One commented: 'I would like to know how reliable the company is I'm going to purchase from, for how long it has been operating, is it a scam website, and what is the address.' Interviewee Three stated: 'I want to know who set up the company and how reliable, how stable is the company. I don't want to make my payment end up with the problem.'

Overall, these additional services and information such as a travel guide and an 'About us' were considered to be useful for interviewees to gather more information about both their trip and the company.

It can be concluded that different customers, much like the interviewees, have different needs and interests in terms of travel products and services offered. In order to capture these different needs, offering a wide variety of complementary products and services including useful information may enhance customer value of the offerings, as found previously in Hypothesis 2 in Chapter 4. These complementary product and service offerings, however, do not necessarily have to be closely related to the core product since closely related products and services did not appear to enhance customer value of these offerings, as found in Hypothesis 1 in Chapter 4. The travel website should consider offering those complementary products or services that respond to customers' needs.

- **Find a Store**

Six interviewees reported that they did not see the importance of a physical store for their travel bookings. They believed that in general travel websites are reliable. Interviewee Two stated: 'No, I don't need a physical store. I believe that this website is reliable. I will trust it. The first thing when I buy something is that I will check whether this is reliable or not.' Moreover, they can book online and do everything online by themselves and can contact the company by telephone if necessary. Interviewee Nine commented: 'A store is not really important because if we can do everything online why do we need to find a store? In that case (if the interviewees have a problem), we just call them. It's easier than going there.' The interview findings confirm the results of Hypothesis 4 in Chapter 4 that a greater number of offline services (the presence of retail stores) does not enhance customers' perceived value of the offering in comparison to the limited offline services offering (the absence of retail stores).

However, the interviewees agreed that if the company had stores for customers to contact, it would add another level of personalisation for some customers, for example, to help them plan their trip. Interviewee Six commented: 'If the flight is too complicated, if I have to go, stop here, stop there, stop another spot, It'd be better to go to find a store, or if the place I want to go to is not on the list (online), so I went to travel agent.' Interviewee Four mentioned: 'If there is a store locator, what we call clicks-and-mortar, people feel more comfortable with the clicks-and-mortar enterprise. It means that they know the company who owns the website actually has an office, they can actually visit the office, to make more enquiries, and if something goes wrong they can talk to someone personally.'

This finding suggests that a greater level of offline service (the presence of both retail stores and call centres) can be used as a moderator variable to enhance customer value of product range and online service offerings, as found in Hypothesis 14, such that the effect the product range and online service has on customers' perceived value will be stronger when a greater rather than limited number of offline complementary services are bundled.

5.4 Website Evaluation Criteria

The following questions were used to uncover the criteria that interviewees use to evaluate a website when purchasing travel products from the Internet.

How would you evaluate a travel website when purchasing travel products from the Internet? What criteria do you use?

The interviews revealed seven criteria used by the interviewees to evaluate a travel website when purchasing travel products from the Internet: (1) company characteristics, (2) security, (3) price, (4) product choice, (5) ease of use, and (6) customer services.

(1) Company Characteristics

The interviews revealed that seven interviewees evaluated travel websites by looking at the company's characteristics, including company reputation, reliability and integrity. They reported that they evaluated the reputation of a website by looking for a well-known brand name with which they were familiar and which many people use. For instance, Interviewee Five described this as: 'Whatever the big names are.' They also use word-of-mouth as a source to evaluate a travel website. Interviewee Three commented: 'If you want to go out from Singapore, try *Zuji.com*, so everyone will try to tell you about

that website, by word of mouth.' Similarly, Interviewee Two stated: 'I am going to ask my friend.'

Additionally, interviewees evaluated travel websites based on the reliability of the company. They reported that they evaluated reliability by looking at the links to other well-known organisations or companies, such as links to government websites, tour agent websites or well-known airline companies. Such links indicate to the interviewees that this website has been endorsed by other well-known organisations or companies. For example, Interviewee Eight commented: 'When you browse through the reliability, and it links to the government website, this acknowledges a lot.' Besides the link to other well-known websites, they also looked at the length of the establishment and the stability of the company.

Besides company reputation and reliability, the integrity of the company was another issue that interviewees considered when evaluating travel websites. Interviewee Three mentioned: 'The integrity, whether I should trust them or not.' If the interviewees can trust the website, they will be more likely to visit that site again.

(2) Security

The security issue links to the company characteristics as described above. Interviewees were looking at the company's reputation, reliability and integrity because they were concerned about security issues such as credit card payments and other potential problems after booking. For instance, Interviewee Ten stated: 'I think about the reputation because to this one I have to give my credit card.' Interviewee Five commented: 'If it is a well-known brand, you are less likely to have a problem.' If the website is new, and they have never used it before, Interviewee Seven explained: 'I might

change to the one that I have used for the credit card.' Thus, interviewees looked for a secure network or a security logo. Interviewee Three commented: 'I expect to see a lock here, SSL, the same as a creditable independent company that can verify and reassure me that my information will be secure.'

(3) Price

Price was another important factor revealed by the interviewees in their evaluation of travel websites when purchasing travel products online. Interviewees reported that they were looking for 'a cheaper price', 'a good deal', 'special offers', 'a good bargain', or 'value for money' from a website. Two interviewees considered price to be the foremost criterion. Interviewee Four stated: 'I suppose the first criterion is price.' Three interviewees considered price as the second or third most important criterion. For instance, Interviewee Five stated: 'So, the first thing is about security. If it is a well-known brand, you are less likely to have a problem; and the second thing will be the bargain, value for money.'

(4) Product Choice

Besides the company brand and price, the travel products offered by a travel website were also important criteria for assessing that website. Interviewees care about the convenience of finding the travel products they need. Interviewee Nine commented: 'If I use online travel, I think the travel agent can book everything for me. I just choose from the different products, different prices, it is more convenient.' Interviewee Four stated: 'I mean the ability to find everything I need, I do not have to search and spend too much time for what I am looking for.' Additionally, travel packages can help interviewees make a decision. For instance, Interviewee Six commented:

'I want to, actually, if the website can plan a package for us, like they already package airline tickets and accommodation. Because in my country, we have travel websites that package everything, even transportation. They pick you up from the airport and send you back. I do not care about the items, you just subscribe to different prices, for the different kinds of packages. I just choose the package that is suitable for me.'

Furthermore, travel packages will be useful for less experienced travellers. Interviewee Nine stated: 'The travel agent should package all the travel products for me because I do not know what to choose, I have no idea.'

(5) User Friendliness

Besides the travel products offered, interviewees also evaluated travel websites by looking at how user friendly the website is in the process of booking. This includes how easy it is to use, to purchase products, and even to cancel the purchase. Interviewee Seven mentioned: 'Umm, how it's easy to use, it's easy to cancel if you make a mistake, or email application if I want to purchase something, email to tell you how to purchase it.' Additionally, some interviewees preferred that the user interface be simple, without too many features, and that it be quick to make a booking. For instance, Interviewee Four mentioned: 'Mainly what I am looking at is how quickly I can make a booking, like not too many pages.' Further, they looked at the comfort of using the interface when making a booking and the ease of the transaction such that the websites actually perform the booking for them. Interviewee Ten stated: 'If I feel comfortable with it, satisfied with it, I will use it.' This may be because user friendliness is linked to the convenience of booking online.

(6) Customer Services

Customer service is another factor as revealed by the interviewees when evaluating a travel website. Interviewees looked at how good a company is at servicing

and taking care of its customers. Interviewee Nine explained: 'Sometimes cheaper is not really good, not good services. I care about service more than price.' However, Interviewee Five suggested that customer service is something he does not need to find in the initial stage of purchasing but that it is important for the next purchase. He commented: 'I don't think I will use that as a distinguishing factor, in terms of initial term of action. But if the result was a bad experience, I won't go there again. I go somewhere else.'

In summary, the main criteria that interviewees used to evaluate travel websites were company characteristics, security, price, product choice, ease of use, and customer service. The interviews also revealed that company characteristics, such as company brand name, reputation, reliability and integrity, as well as security issues, were the most important criteria mentioned frequently by interviewees. Additionally, price was a common feature in all the interviews.

The interview findings support those outlined in Chapter 4: that the wide selection of travel products and/or services offered by a travel website are important for interviewees when choosing a travel website. Some interviewees suggested that they wanted the website to provide everything they needed because they wanted the convenience of one-stop shopping. This finding, therefore, supports Hypothesis 2 in Chapter 4 that a wide product range offering can be used to enhance customer value.

As mentioned in Hypothesis 16's finding in Chapter 4, 39% of the variation in customers' future behaviour can be explained by complementary product and service offerings. These interview findings, therefore, help to suggest factors that travel websites should consider including in their offerings besides offering complementary products and

services to create value for customers and thus influence their future behaviour towards the company.

Table 5.2 summarises the important factors that interviewees use to evaluate travel websites.

Table 5.2 Summary of the Criteria Used to Evaluate Travel Websites Revealed from the Interviews

Criteria	Content
Company characteristics	Company's reputation (brand name), reliability and integrity
Security	Credit card payment, secure networks
Price	A cheaper price, a good deal, special offers, a good bargain, or value for money
Product offerings	Product choice, travel packages, links to related travel products
User friendliness	Ease of use, quick booking process, comfortable with the booking interface
Customer services	Good customer services e.g. after-sales services

5.5 Other Travel Products or Services Needed from a Travel Website

The following questions were used to investigate other products, services or information that interviewees may want from a travel website.

Is there anything else you would expect from a travel website and, if so, what and why?

The interviews revealed that interviewees expected to see some other products, services or information on a travel website such as company details, payment security information and confirmation of payment, customer service/relationship, personalised

offerings, and other information. The details of such products and services are described below.

- **Company Reliability**

Interviewees wanted to see details about the company that help confirm the company's reliability. For instance, interviewees want to see the company's registration details (Australian Business Number, or ABN), to know how old the company is and where and how to contact the company. One of the interviewees wanted to see some sponsorship or partnerships at the bottom of the page to show the professional practice or accountability of the website. These expectations were linked to the reliability of the company. Interviewee Eight mentioned:

> 'I would imagine to see partnerships or whether this website is the member of such and such organisations, for example, IRRA and BOA. I recommend to see not only that they are authorised by some organisations but on some websites usually there are a few more things down in the bottom to say how old the website was and how they are a professional practice. These are some measures for accountability.'

- **Secure Payment**

In the process of booking, interviewees want to have receipts or invoices sent to them online as well as secure networks. This expectation is linked to their payment security. Interviewee One commented: 'There is no online receipt. Normally, after finishing your payment, there should be an online receipt that confirms your payment and customers can print it out.' Interviewee Three stated: 'I expect to see a lock here, SSL, the same as creditable independence company that can verify and reassure me that my information will be secure.' This was a limitation of this study.

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- **Customer Service/Relationship**

Interviewees suggested several customer services they wished to see on travel websites, for instance, 'my account', membership or travel promotion areas. Interviewee Two wanted to see account services offered by an online travel agency where she can personalise her needs. Interviewee Three wanted to have membership services offered by an online travel agency where customers can collect points, similar to the frequent flyer service used by airline companies. Interviewee Three commented: 'It will be better if you can have membership, you can encourage your customers to travel with you for the rest of their life if you travel with us, or if you book payment with us these are the points that you can collect.' Finally, Interviewee Nine wanted the company to send special holiday offerings via email so she can find a special holiday easily. She explained:

> 'I think about some travel promotions, because some good online travel agents they send us their special promotion. Sometimes when I feel I want to have a vacation but I have no ideas. Sometimes I just got this promotion, I just join and they have a special promotion on different seasons for different destinations. So, they have to be able to have a good customer relationship. People are very busy when they start to use online services from travel websites, they become loyal.'

These services can be used to build up a customer relationship as suggested by the interviewees.

- **Animal/House Sitter Services**

Interviewee Eight wanted the company to offer her animal or house sitter services while she travelled. She stated: 'That is, who would look after your animals at home, who would look after your garden when you are away.'

- **Personalised Offerings**

Interviewee One suggested that he wanted a travel website to offer him a personalisation package that suits his budget. For example, with a budget of $5,000, he wanted to see what packages of products and/or services the travel agent could offer him.

- **Other Information**

Interviewees also suggested several other types of information they wanted from a travel website. These include:

- *Maps*. Interviewee Seven suggested that he wanted the website to provide him with maps of Phuket and surrounds, so he can find the exact location of the place he is visiting. Interviewee Seven stated: 'Maybe you could provide which the location (map), so I know exactly where it is.'

- *Links to other websites.* Three interviewees suggested that they wanted to see links to other websites, for instance, tourism organisation websites, so they could find more information about Thailand. Interviewee Two stated:

> 'Links to other websites, such as the tourism authority of Thailand giving you information about activities. I (will) travel on December maybe during that period there may be some festivals, like a water festival, so maybe I can get the idea during that period of time, of that activity, or this activity, so, I do not lose the opportunity to enjoy.'

- *Hotel photographs.* When browsing through hotels, three interviewees suggested that they wanted to see more hotel photographs to gain a better idea of each hotel. Interviewee Four commented:

> 'Another thing is probably we're looking for the hotel just from the picture, maybe sometimes, it probably needs a few more photographs, maybe if we click on that image there could be a few more photographs showing maybe how the rooms look, and maybe the lounge area.'

- *Activities information*. When browsing through possible activities, two interviewees mentioned that they would like to see the time duration and dates for each activity, to enable them to better plan their trip. Interviewee Three mentioned: 'Some websites when I search for this kind of tour, it tells me how long the tours are going to take, so I can arrange my time better.' This was another limitation of this study.

- *Up-to-date travel regulation information.* Interviewee Eight explained that she wanted to see up-to-date travel regulation information to help her better prepare for her trip. She mentioned: 'What sort of bags you can take, what sort of things you are not allowed to do at this time because things have changed.'

- *Comments from other people.* Interviewee Five suggested that he wanted to see comments from other people about a particular product or service to help travellers make a decision. He explained:

> 'These all contain the information that the travel agency put up. Sometimes I like information, reviews about what other people have said, like on Amazon, you get information about the book, sometimes that's useful.'

In conclusion, the interviewees wanted to see the reliability of the Internet vendor and the security of their payment so they can trust the company from which they are going to purchase the products or services. Additionally, one interviewee wanted to have access to a personalised offering to ease their budget planning. Moreover, some interviewees wanted to have some form of loyalty program offered by the company to maintain a good relationship with the customers and to update them about that company's offers, such as membership or special deals. Finally, the interviewees also wanted more useful travel information to plan their trip. These findings might be useful for travel websites when considering what to include in their service offerings to attract customers to their site.

5.6 Summary

This chapter has reported the analysis of 10 face-to-face interviews using the experiment developed for the survey reported in Chapter 4. The focus again was on online shopping behaviour using the scenario of travelling to Phuket, Thailand. The interviews were conducted to triangulate the findings of Chapter 4, that is, to determine the factors that affect customers' perceived value in B2C e-business and their future behaviours toward the e-business operator and to evaluate the findings from the survey in a one-on-one examination of site users.

Two types of shopping behaviour were revealed from the interviews: that of price- and product-oriented consumers. Price-oriented interviewees focused their interest on price whereas product-oriented interviewees were concerned about the convenience of having a wide range of travel products and services on offer. These findings support Hypothesis 2 that a wide rather than a narrow product range offering can be used to enhance customers' perceived value, especially for product-oriented customers who value shopping convenience. These findings also support Hypothesis 1: that closely related products and services do not help enhance customer value of the offerings. This is because these products or services are not necessary for their trip; they needed only basic complementary products and services such as a hotel and travel insurance. Therefore, they were not interested in the complementary products or services offered even though they were closely related to their trip.

Additionally, the interviews in section 5.3.2 revealed that some interviewees were not interested in any other complementary products or services offered because they had no travel plans in regards to what to do or where to go in Phuket. For these kinds of

interviewee, they needed time to gather more information prior to making their decisions. This finding might reveal the reasons underlying Hypothesis 1 in Chapter 4, which revealed that closely related complementary products and services do not enhance customer value, such that these interviewees did not have a clear idea of what they wanted in the travel scenario. Therefore, they were not interested in any complementary products or services even though they were closely related to their trip.

The interview findings from section 5.4 also revealed that the choice of travel products and/or services offered by a travel website is important for interviewees when choosing a travel website. This finding is similar to the case of product-oriented interviewees who focused their interest on products and services as discussed previously. Offering a wide range of products and services might help capture and cater for the different needs of customers and thus enhance the value of the offerings. This finding supports Hypothesis 2 in Chapter 4 that a wide rather than a narrow range of complementary products and services can be used to enhance customer value.

Besides the ability to book online, the interview findings in section 5.3.1 revealed that interviewees wanted a travel website to provide them with the ability to track and change their bookings online. This confirms the finding of Hypothesis 3 that offering a greater online complementary self-services facility can enhance customer value of those offerings.

The interview findings in section 5.3.2 in regards to the 'Find a store' service confirm the results for Hypothesis 4 that a greater number of offline services (the presence of both retail stores and call centres) does not enhance customers' perceived value of the offering in comparison to the limited offline services offering (only the

presence of call centres, no retail stores available). Interviewees did not thus perceive the importance of physical retail stores or travel agencies because they believed that they could do everything online by themselves. They did not need to travel to a store or travel agent for their bookings.

However, the interview results suggest that a physical store can be used to add another level of service support, such as may be required for planning a complex trip. This finding confirms the result of Hypothesis 14 that a greater level of offline service (the presence of retail stores) can be used to enhance customer value of product range and online services offerings.

Finally, the interviews revealed that the criteria used by interviewees' to choose from a selection varied depending on the products or services offered. However, price was a common factor considered by all. Additionally, when selecting a website to book or purchase travel products, interviewees used several criteria. Besides considering complementary products and services offered, interviewees also considered other factors including company characteristics (e.g. brand name, reliability, integrity, security), merchandising factors (e.g. price, quality), interface factors (e.g. ease of use, ease of ordering), and customer services.

These interview findings can be used to suggest what other factors customers value when choosing travel website operators, since Hypothesis 16 in Chapter 4 revealed that 39% of the variation in behavioural intentions can be explained by the perceived customer value of complementary products and services offerings. Travel website operators should consider adding these factors to their offerings to create value for

customers, and in turn to influence customers' future behavioural intentions towards them.

The interview and the experiment findings provide useful information for further developing B2C e-business value creation. The implications of this study will be discussed in the next chapter.

Chapter 6

DISCUSSION AND CONCLUSION

6.1 Introduction

The purpose of this study was to examine customers' perceived value of the four complementary products and services offered by B2C e-business operators—product component, product range, online services, and offline services—as well as the influence of customers' perceived value on behavioural intentions. To achieve these objectives, the effects of the four factors (independent variables) and their interactions were investigated. A 2 (product component: closely related vs. mixed-related) x 2 (product range: wide vs. narrow) x 2 (online service: greater vs. limited) x 2 (offline services: greater vs. limited) between-subjects factorial design was conducted with 16 travel websites created for this study to represent the 16 different combinations of the above factors. Univariate tests and analysis of variance (ANOVA) were performed to test the main effects and interactions among the four factors on customer value. Further, regression analysis was used to determine the relationship between perceived value and behavioural intentions toward e-business operators. Finally, triangulation with face-to-face interviews was conducted to validate the experimental findings and to further enhance an understanding of customers' online travel shopping behaviours.

This chapter discusses the main findings from both the experimental results and the interviews, and then the implications of these results. The limitations of this study and recommendations for further research are also discussed in the final part of the chapter.

6.2 Discussion

As shown in Figure 6.1 below, this study examined (1) the effects of four complementary products and services—product component, product range, online service, and offline service—on customers' perceived value, as proposed in Hypotheses 1-4; (2) the interaction effects of these four complementary products and services on perceived value, as proposed in Hypotheses 5-15; and (3) the relationship between perceived value and behavioural intentions as proposed in Hypothesis 16. The findings are summarised in Table 6.1.

Note: ⟶ Main Effect - - - - -▶ Two-Way Interaction Effect
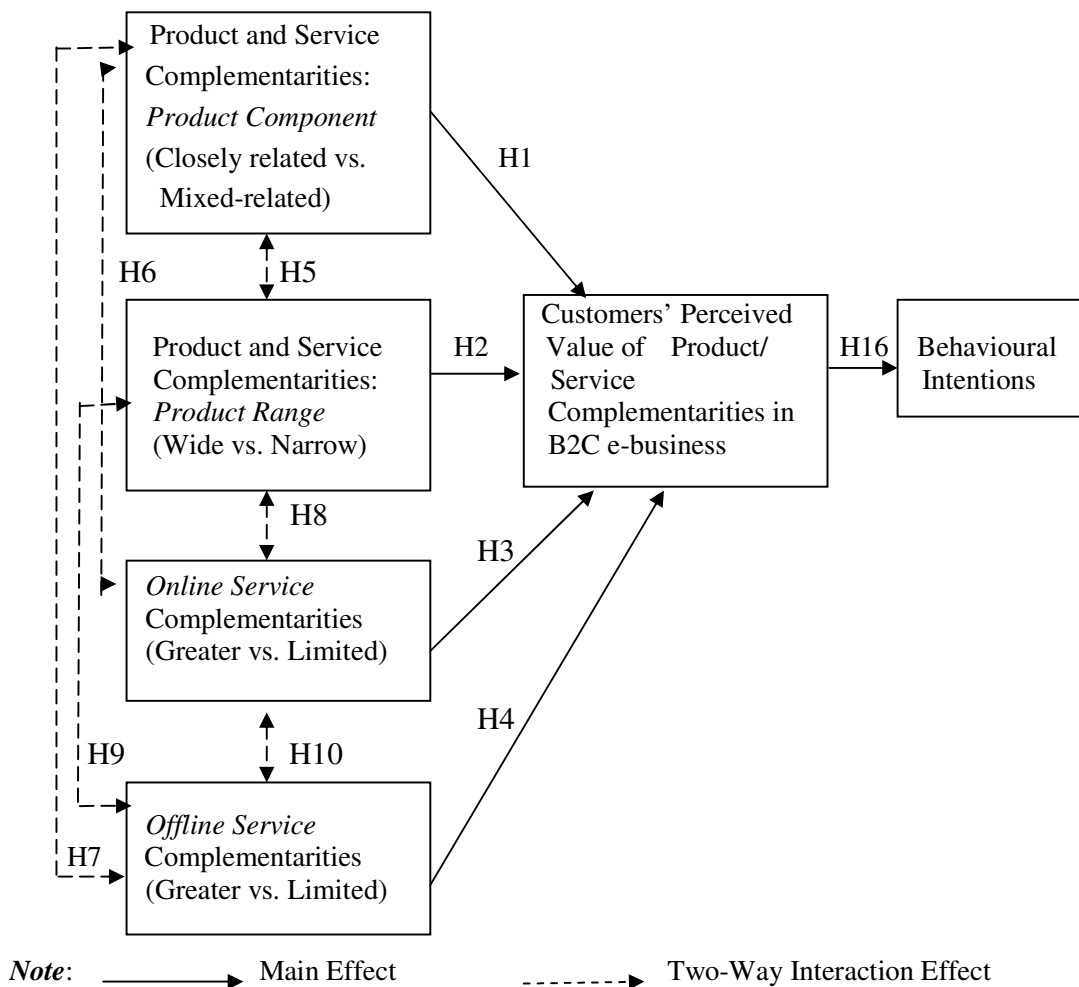
Three-way and four-way interactions (H11-H15) are not presented here.

Figure 6.1 Conceptual Model of Customers' Perceived Value of Product and/or
Service Complementarities in B2C e-Business (repeated Figure 2.1)

Table 6.1 Summary Results of the Experimental Study (repeated Table 4.25)

Hypothesis	Result
Main effect (H1-H4)	
H1: That the more closely related complementary products and services in a bundle are, the greater is their perceived value.	This hypothesis is not supported.
H2: That the wider the bundle range of complementary products and services, the greater is their perceived value.	This hypothesis is supported.
H3: That the greater the number of online buying services complementary there are, the greater is their perceived value.	This hypothesis is supported.
H4: That the greater the number of offline services complementary there are, the greater is their perceived value.	This hypothesis is not supported.
Two-Way Interaction Effects (H5-H10)	
H5: That the product component effect on customers' perceived value will be stronger when a wide range of complementary products and services are bundled rather than a narrow range of complementary products and services.	This hypothesis is not supported.
H6: That the product component effect on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.	This hypothesis is not supported.
H7: That the product component effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is not supported.
H8: That the product range effect on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.	This hypothesis is not supported.
H9: That the product range effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is not supported.

Table 6.1 (Continued)

Hypothesis	Result
H10: That the online services effect on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is not supported.
Three-Way Interaction Effects (H11-H14)	
H11: That the effect of the product component and product range on customers' perceived value will be stronger when a greater number of online complementary services are bundled rather than limited online complementary services.	This hypothesis is not supported.
H12: That the effect of the product component and product range on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is not supported.
H13: That the effect of the product component and online service on customers' perceived value will be stronger when a greater number of offline complementary service are bundled rather than limited offline complementary service.	This hypothesis is not supported.
H14: That the effect of the product range and online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary services.	This hypothesis is supported.
Four-Way Interaction Effects	
H15: That the effect of the product component, product range, and online service on customers' perceived value will be stronger when a greater number of offline complementary services are bundled rather than limited offline complementary service.	This hypothesis is not supported.
Perceived Value and Behavioural Intentions	
H16: Customers' perceived value of products and services complementarities is positively related to customers' behavioural intentions.	This hypothesis is supported.

The following sections discuss the findings of the experiment and interviews, in two parts. The first part discusses the effects of the four main factors and their interactions on customers' perceived value. The second part provides a discussion of the influence of customers' perceived value of the four complementary products and services on their future behaviours towards the company, such as their likelihood of searching for more information, purchasing products, and visiting the site again.

6.2.1 Main and Interaction Effects Findings

Results from the experiment showed that the two main effects on customers' perceived value came from product range and online service (Hypotheses 2 and 3). However, there was insufficient strength in the data analysis to indicate any significant effect from either product component or offline services on customers' perceived value (Hypotheses 1 and 4).

Additionally, the results showed an interaction (joint) effect of the three factors, product range, online services, and offline services, on customers' perceived value (Hypothesis 14). However, except for these three factors, there was insufficient evidence to show any other joint effects of either two, three or four factors on customers' perceived value in this study. Further details are provided below.

Product Component and Perceived Value

In this study, components of complementary products and services offered did not enhance customers' perceived value. There was no significant difference in value perception of components of complementary products and services offered between subjects exposed to the travel websites with closely related product components and those exposed to the travel websites with mixed-related product components. Both groups

exhibited a similar degree of value perception of components of complementary products and services offered. Also, product components did not interact with any other factors. This means that, in this study, components of complementary products and services offered not only had no effect on customer perceived value as a main effect, but they also did played no moderator role in enhancing customers' perceived value of the offerings when interacting with other factors.

Based on the literature (Guiltinan 1987; Harlam et al. 1995; Herrmann et al. 1997; Zott et al. 2000), it was expected that customers would perceive greater value when closely related complementary products are offered together with the main offering. This is because customers are likely to perceive economies of time and effort when purchasing from a company that provides or offers complementary products, either as part of their own product offering, or that of a partner (Oxenfeldt 1966; Guiltinan 1987; Bakos 1998; Zott et al. 2000). The ability to obtain products and/or services for all their needs from one website increases the convenience of one-stop shopping for customers (Seiders et al. 2000). The convenience of shopping and the simplicity of a single transaction may increase value perceptions (Zott et al. 2000). The more that bundles of complementary products and services are closely related, the more customers are likely to perceive convenience and thus to perceive higher value.

The findings in this study were not consistent with the previous literature. Harlam et al. (1995) and Herrmann et al. (1997) suggest that customers prefer closely related bundled components to either moderately or unrelated components of products and services offered. In this study, however, subjects did not sense any difference between closely related travel products and mixed-related travel products components offered by

the travel website. Product component, therefore, is not an important determinant for value perception, according to this study. This might be because the scenarios and products used in the various studies were different. In the study conducted by Harlam et al. (1995), subjects were asked to choose a bundle of both durable and nondurable goods, including a Sony VCR, Neutrogena Shampoo, Panasonic TV, Seiko watch and Fuji tapes via a computer-simulated shopping experiment presenting either closely, moderately or unrelated components as a package. In this study subjects were instructed to choose any products offered on the travel website as a single item for their travel needs, not a package, and as an additional product or service to the airline ticket offerings.

Additionally, this might be explained by consumers' purchase involvement. According to Hawkins et al. (1986, cited in Beatty & Smith 1987, p. 88), purchase involvement is defined as 'the degree of care or concern felt toward the purchase decision or choice'. Petty et al. (1983) have suggested that consumer involvement plays an important moderator role as a determinant of the amount and type of information processing undertaken by consumers. The degree of consumers' involvement can be classified into either low-involvement or high-involvement (Schiffman & Kanuk 1991). Low-involvement purchases are 'purchases that the consumer does not regard as very important, have very little relevance to the consumer, have little perceived risk associated with them and are characterised by little motivation to expand cognitive effort and time on processing information associated with a message' (Nelmapius et al. 2005, p. 4). In contrast, 'high-involvement conditions cause the experience of a high level of motivation, arousal or interest that causes greater searching, information processing and decision-making by individuals' (Nelmapius et al. 2005, p. 5). According to consumer behaviour theories, 'under low involvement conditions, individuals engage in minimal search, while

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under high involvement conditions, individuals engage in extensive search' (Engel & Blackwell 1982, Hawkins et al. 1986, Howard & Sheth 1969, all cited in Beatty & Smith 1987, p. 85).

In this study, subjects may have had a low-involvement with the travel scenario offered in the experiment. This is because the subjects might not have perceived the given travel scenario as a real-life situation, and thus would have no interest in any products or services offered for their trip. Further, subjects might have no idea about what travel products or services they need for their trip. This point is supported by Farhoomand and Lovelock (2001), who revealed that travellers usually did not have a good idea of the kind of vacation they wanted, and nor were they aware of the details and alternative options. Additionally, Beatty and Smith (1987) argue that purchase involvement was positively associated with total search effort across product categories. Therefore, because subjects had low-involvement with the travel scenario, they appeared to have little interest in searching across any products or services offered for their trip. Thus, they might not sense or perceive the difference between related or unrelated product components offered by the travel website.

This was also supported from the interview findings. Interviewees who had high-involvement in the hypothetical trip planned what they needed and then started looking for products and/or services offered by the travel website. In contrast, if interviewees had no idea where to go or what to do in that destination, had low-involvement in a given travel scenario, they were not interested in either the closely or less-related products provided, besides hotels or car hire. Such subjects may have required more time to plan their trip prior to visiting the travel website.

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Product Range and Perceived Value

In this study, ranges of complementary products and services offered by travel websites can be used to enhance customers' perceived value. As expected, there was a difference in perceived value of ranges of complementary products and services offered between subjects who were exposed to the websites with wide travel product ranges and those exposed to the websites that had narrow travel product ranges. Subjects who were exposed to the websites with wide travel product ranges exhibited higher value perceptions than subjects exposed to the websites with narrow travel product ranges. In other words, a wider travel product range results in higher customers' perceived value of the offerings. This suggests that product range can be used by e-business operators to enhance customers' perceived value of the offerings when shopping from the Internet.

The importance of offering a wide product range to customers in B2C e-commerce has been emphasised by several researchers (Jarvenpaa & Todd 1996-97; Alba et al. 1997; Margherio et al. 1998; Keeney 1999; Zott et al. 2000; Torkzadeh & Dhillon 2002). Offering a wide product range can be used to create value for customers by aggregating services and products that traditionally were offered by separate industries (Zott et al. 2000). With Internet technology, firms are able to use the Internet to form network collaborations with their partner firms to offer various products and services with the core services that mix and match to meet customer needs (Edvardsson & Gustavsson 1992; Gronroos 2000; Kandampully 2000; Normann 1984; 2000). The offering of a range of travel products and services creates industry convergence that leads to the formation of a new market with a new type of value chain from other industries such as car hire, hotels, insurance and finance. This in turn creates the convenience of one-stop shopping for customers (McIvor et al. 2003).

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In this study, a wide product range was presented that included 13 travel products and services on the menu bar as well as the ability to search for more products and services information, which may increase search convenience in finding products. In this regard, the product range offered by e-business operators can increase customers' perceived value. The findings in this study were consistent with the previous literature (Wyner 2001; Burke 2002), which found that customers want to have a better selection of items when they shop online. Additionally, product offerings in the online environment have a significant impact on customer satisfaction (Burke 2002) and loyalty (Srinivasan et al. 2002). Customers also gain benefits from the lower search costs and minimised search effort required in acquiring product and services (Guiltinan 1987; Eakin & Faruqui 2000; McIvor et al. 2003). A wide product range offering, therefore, increases search convenience for customers in that they can identify and select products they wish to buy without having to search elsewhere (Seiders et al. 2000).

The interview findings also supported that customers prefer to have a wide variety of products and services offered to meet their holistic needs. In this regard, B2C e-business operators are advised to provide a wide product range to create value for customers and attract customers to visit or revisit their site.

Online Service and Perceived Value

Results in this study also revealed an effect of online complementary service on customers' perceived value. Subjects who were exposed to the websites with a greater number of online travel services (the ability to purchase, track their orders, and receive post-purchase support online) offerings placed greater perceived value on those offerings than subjects who were exposed to the websites with limited online travel services (where you can only browse for information or send a request for purchasing online). In other

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words, a greater number of online travel services result in a higher customers' perceived value of the offerings. The findings from the interviews also revealed that interviewees want to have the ability to book, track the bookings, and access customer services online. This was consistent with Burke's (2002) findings that customers want to have more online service facilities provided to them, such as the ability to pay online, receive an email message confirming their purchase order and shipment, track the shipment online, and communicate with a customer service support team via email if required.

Levenburg (2005) suggests that offering more online services, especially in the acquisition process (such as email and online ordering) and for post-purchase support can be used to help create value for customers. This is because these online services increase transaction convenience through the speed and flexibility of online decision-making as well as reduce searching and other significant transaction costs (Seiders et al. 2000). For instance, buying a ticket online is clearly more convenient than going to a travel agent. Customers gain advantages of purchasing online from unrestricted trading hours, no queues, availability of more alternatives, and faster transactions (Kalakota & Robinson 1999; Barua et al. 2001a; Fellenstein & Wood 1999).

A greater number of online services, in this study, include offering online travel services facilities from pre-purchase to post-purchase that enables travellers to complete their purchasing transactions online as well as track their orders and receive after-sales service online. The ability to purchase travel products and/or services online thus helps reduce purchasing time and effort and increases convenience when compared to the services offered by a traditional retail store (Jarvenpaa & Todd 1996-97; Meuter et al. 2000). When consumers find online shopping convenient and time-efficient, they will be satisfied with the general effectiveness and efficiency of the electronic channel (Devaraj

et al. 2002). Because convenience of transaction may be a great concern for online shoppers (Seiders et al. 2000; Burke 2002), the ability to purchase online as well as access other online service facilities may increase value perceptions.

Offline Service and Perceived Value

No significant effect from offline services on customers' perceived value was found in this study. Subjects who were exposed to the websites with a greater number of offline travel services (e.g. a call centre and physical retail store) displayed similar amounts of perceived value compared to subjects exposed to a website with limited offline travel services (e.g. a call centre only). This is not consistent with Amit and Zott (2001), Burke (2002), Steinfield et al. (1999; 2002) and Zhu (2004) who all suggest that a physical retail store (clicks-and-mortar) can be integrated to create value for customers in any phase of the buying process from pre-purchase, to purchase, to post-purchase. Burke's (2002) findings also revealed that a majority of consumers prefer to use multiple channels when shopping to learn about new products, search for product information, compare and evaluate alternatives, purchase and pay for products, receive merchandise through a store visit, and return products.

Based on the results of this study, the manipulation of greater and limited offline travel services failed to highlight the difference between them. In this experiment, subjects were instructed to read through the 'Contact Us' page to learn what offline service facilities are provided to customers. In this stage, subjects might not feel the importance of having or not having retail stores because the experiment was in the pre-purchase stage and involved practising booking airline tickets online following given instructions. That retail stores can be used to add another level of personalisation or

contact points when customers have problems with their bookings or to get their ordered products was revealed in the interviews. In this case, customers can walk in and talk to a sales person face-to-face for their needs (Mathews 1997; Simons et al. 2002; Steinfield et al. 2002). Also, customers often need to meet with a knowledgeable travel agent face-to-face to plan for complex trips (Turban et al. 2008). This point was supported by the interviews findings, in that interviewees said they would need a travel agent if the trip were complicated, which was not the case in the experimental scenario. Additionally, the results might be different between the service products used in this study, and physical or tangible products such as computers. This is because the physical retail store is considered to be important for exchanging or returning products after making purchases online (Burke 2002; Simons et al. 2002; Steinfield et al. 2002).

In this study, however, offline travel services played a moderator variable role in enhancing the customer value of the travel product range and online travel service offerings. This means that the effects of offline travel services on customers' perceived value were interpreted with the travel product range and online travel service interactions.

Interaction Effect of Product Range, Online Services, and Offline Services on Customers' Perceived Value

The previous main effects of product range and online service facilities should be looked at by themselves only if a factor does not have a statistically significant interaction with another factor (Maxwell and Delaney 2004; Hair 2006; Dallal 2007; Ledolter & Swersey 2007). Because the *travel product range by online travel service by offline travel service* interaction was statistically significant, the interaction of these three factors implies that we need to look at the effects of product range, online service and offline service jointly.

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In this study of travel products, offline travel services were treated as a second moderator variable that moderated the relationship between customers' perceived value on travel product range and online travel service interactions. The significant three-factor interaction of travel product range by online travel services by offline travel services suggests that offline travel services can be used to enhance customers' perceived value of travel product range and online travel service offerings. This indicates that subjects perceived greater value in the travel product range and online travel services offerings when they were simultaneously exposed to a *greater number of* offline travel services than *limited* offline travel services.

Since the effect of product range, the focal independent variable in this study, is not the same for every online service condition, further analysis was performed to evaluate the impact of travel product range after fixing the levels of two factors, online travel service and offline travel service, as suggested by Jaccard (1991) and Maxwell and Delaney (2004). The results revealed that at the *greater* offline service level, product range had an effect when combined with *greater* online services, not limited online services. This means that customers' perceived value of product ranges offered was increased when bundled with greater offline services and greater online service. Hence, value perception of product range offered will be greater if customers are able to perform transactions online as well as have physical store services support offline.

The product range, online services, and offline services interaction supports the main effects of product range and online services, and provides additional important insights when these factors interact with offline complementary services. Offline services, especially physical stores, can be used to add value to the product ranges and online services as a contact point where customers can talk to sales people face-to-face as

well as receive after-sales service support, such as in-store pick-up or payment after purchasing online (Mathews 1997; Simons et al. 2002; Steinfield et al. 2002).

This can be explained by the nature of online shopping environments when a purchase transaction is conducted via the Internet. Customers may encounter several risks involved owing to the distant and impersonal nature of the online environment. First, customers may perceive a performance risk resulting from the inability to physically check the quality of a product (Lee & Turban 2001; Forsythe & Shi 2003). This situation is applicable especially for 'touching' and 'feeling' products, such as clothes. Moreover, customers perceive a performance risk because they do not have the opportunity to try the product or service before purchasing (Kim et al. 2005). As a result of this lack, customers perceive a financial risk or the possibility of monetary loss if a product may need to be repaired, replaced or returned (Horton 1976). To reduce these risks, physical retail store services are provided to complement the online service by allowing customers to access these retail stores so they can return goods or receive after-sales services if necessary (Burke 2002; Steinfield et al. 2002).

Additionally, customers may perceive a performance risk from making a poor product choice when purchasing a complicated or sophisticated product over the Internet, which may result from insufficient product/service knowledge on which to base their judgment or purchase decision. In order to avoid these pitfalls and uncertainties, customers tend to use more sources of information in order to reduce this risk (Lutz & Reilly 1974). Physical retail stores can play a vital role in reducing the risk by providing complementary offline services such as personal recommendations (Midgley 1983), as well as additional product or service information (Beatty & Smith 1987) to cater to individuals' needs. However, the results in this study concerning subjects' beliefs about

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the risks of Internet shopping revealed that subjects perceived the lowest financial risk when purchasing travel products or services from the Internet, which might be because travel products are service products that do not need to be repaired, replaced or returned.

Moreover, customers may also perceive privacy or security risks from using credit cards for payment over the Internet (Harrison-Walker 2002; Salisbury et al. 2001). They perceive the risk of credit card fraud or the theft of their personal information while sending this sensitive information over the Internet (Salisbury et al. 2001; Lee & Turban 2001; Liebermann & Stashevsky 2002). Results from this study showed that privacy and security risks are the main concern for subjects who participated in the study. Subjects in this study believed that they were exposed to higher risks associated with privacy and security issues when shopping online. The interview findings also revealed that interviewees were concerned about security issues such as those related to credit card payments and other problems after booking. Hence, customers who are concerned about the security of online payments can rely on the option of in-store payments provided by complementing online ordering with such offline services (Steinfield et al. 2002).

Besides financial risk, performance risk and privacy risk, customers may perceive a time and inconvenience risk while shopping on the Internet (Forsythe & Shi 2003). This can include the risk of a delay in receiving the ordered products, which might not arrive in time for use since it might take several days for mail/courier delivery. In-store pick-ups, therefore, can be provided for customers as a complementary service with online ordering to reduce the time required for product delivery where required (Burke 2002; Steinfield et al. 2002). However, the subjects in this study showed moderate concern about the time and inconvenience risks of ordering, receiving or changing products when

purchasing travel products from the Internet. This might be because travel products are service products and subjects have experiences shopping online.

These risks might reduce the perceived value of online services provided by B2C e-businesses. Thus, in order to reduce these risks, physical retail store services can be provided in addition to complementary products and online purchasing services offered by e-tailers. This, in turn, helps enhance customer trust in the web channel (Steinfield et al. 2002).

Value perceptions of complementary products and services offerings in turn influences customers' future behaviour to conduct business with e-business operators, such as search to seek more product information, to say positive things about the business, to recommend the company's website to others, to visit the company website again, or to purchase products/services available on the website. The relationship between customers' perceived value and behavioural intentions is discussed next.

6.2.2 Perceived Value and Behavioural Intentions

As expected, results from the experiment showed a positive relationship between customers' perceived value of complementary travel products and services offering and behavioural intentions (Hypothesis 16). Subjects who perceived high value in the complementary products and services offered by e-business operators had more positive intentions toward the e-business operators in future. There is extensive literature linking perceived value and behavioural outcomes (Dodds et al. 1991; Chen & Dubinsky 2003; Parasuraman et al. 2005; Baker et al. 2002). This finding confirms that customers' behavioural intention towards an e-business operator is explained by the perception of

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complementary products and services value offered by B2C e-business operators. This supports the work of Kim (2004) who also found that consumers' perceived value was an important determinant of behavioural outcomes. When people place greater value on complementary products and services offered by e-business, their intentions to conduct business with that company (e.g. to search for products or services again) may be greater.

When the magnitude of the relationship was assessed in this study, the degree of the relationship was strong ($r = .625$). Thus there is a strong positive relationship between customers' perceived value of complementary travel products and services offered and behavioural intentions. The greater the value customers place on complementary product and/or service offerings, the more this indicates their future behaviour to conduct business with that e-business operator.

From these findings, the conceptual model of customers' perceived value of product and/or service complementarities in B2C e-business in Figure 2.1 has been revised as shown in Figure 6.2.
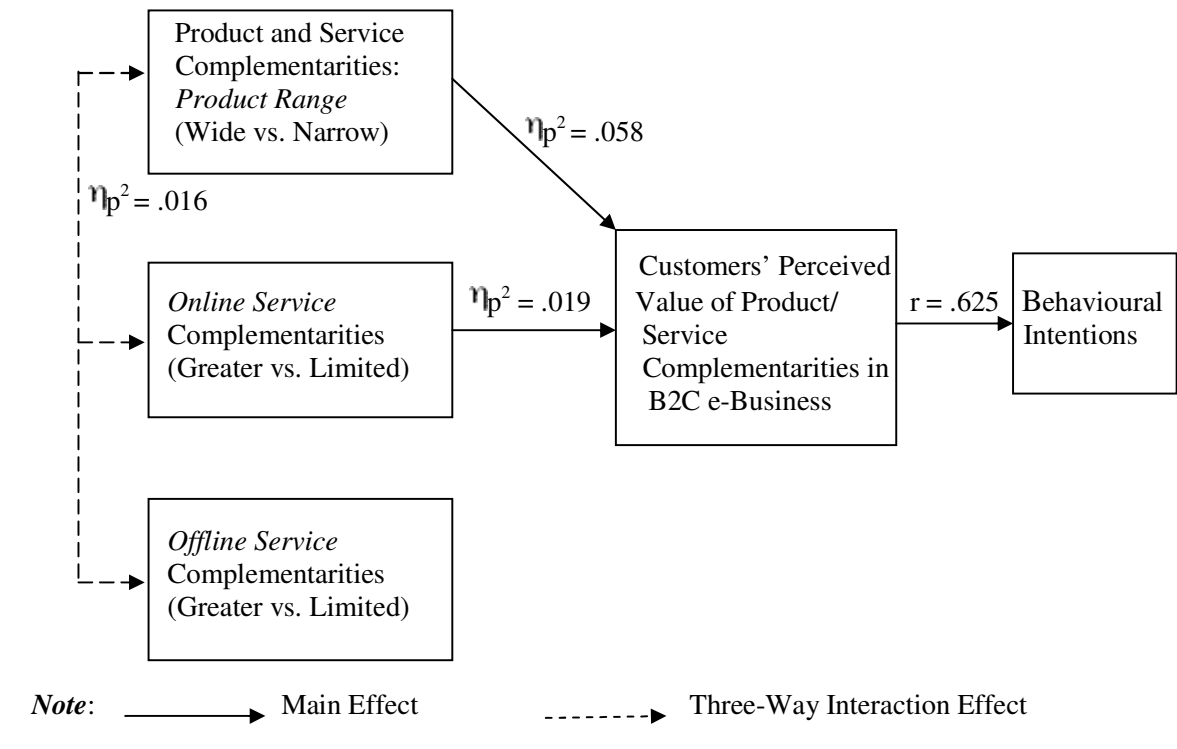
Figure 6.2 A Revised Model of Customers' Perceived Value of Product and/or Service Complementarities Offered in B2C e-Business

However, in this study, the effect size of the three-factor interaction of travel product range by online travel service by offline travel service was relatively weak. It accounted only for 1.6% of the total variability in the customers' perceived value of the offerings. Furthermore, only 39% of the variability in customers' future behaviour can be explained by customers' perceived value of complementary products and services. This means that there are other factors that can be used to explain customer value of the offerings when shopping for travel products online besides the complementary products and services offered in this travel scenario.

6.2.3 Other Factors Influencing Customers' Perceived Value of Offerings

The interviews were conducted to reveal other factors that are also important for customers. The interview findings revealed that besides complementary products and

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services offerings, interviewees cared about other factors, including: (1) company aspects (for example, brand name, reliability, security or integrity), (2) merchandising aspects (for example, price or quality), (3) user interface (for example, ease of use or ease of ordering), and (4) customer services (for example, membership points or special promotions).

First, the interviewees were concerned about company brand names or store names when shopping online. This finding is similar to that of Ernst and Young's research (cited in Coltman et al. 2002) who reported that brand name has an influence on participants' online buying decisions. As suggested in both the economics literature (Heiman & Muller 1996) and consumer research literature (Bolton & Drew 1991; Richardson et al. 1994; Teas & Agarwal 2000), consumers use extrinsic cues such as brand names to infer product quality and refine their choice. Company brand name was found to be as significant as prices for online shoppers (Brynjolfsson & Smith 2001). Customers use brand name as a proxy for a retailer's credibility (Brynjolfsson & Smith 2001). As shown in the interview findings, the interviewees linked the company brand name to online security and company reliability. These findings were also consistent with Burke (2002) who suggested that customers wanted to pay via a secure web page. Therefore, to avoid security problems, shoppers tend to use a big or well-known brand name of Internet vendor when shopping online, as revealed by the interviewees.

Second, the interviews revealed that price is an important criterion for judging the value of a website, a point emphasised by price-oriented interviewees, that is those interviewees who were more sensitive to price. They preferred to have good value for money for travel products and services offered when shopping online. They preferred to shop around and hunt for a cheaper price from both travel websites and individual travel

product sites. This is consistent with previous research (Jarvenpaa & Todd 1996-97; Korgaonkar & Wolin 1999; Margherio et al. 1998; Zeithaml et al. 2000; Anckar et al. 2002; Levin et al. 2003), which found that customers prefer to shop online because of the ease of comparing products and prices offered. Price is one of the main factors that influences the perception of product quality and value (Andrews & Valenzi 1971; Chen & Dubinsky 2003; Dodd et al. 1991; Gardner 1974; Monroe & Krishnan 1985; Render & O'Conner 1976). This can be explained in part by the acceptable price range concept as suggested by Dodd et al. (1991). These authors claim that for a particular purchase, buyers have set an acceptable price range that they are willing to pay. If a price is unacceptable, the inference is that the offer has little or no net perceived value (Dodd et al. 1991).

Third, the interviews suggested that ease of use was another important issue when choosing a website from which to purchase. Interviewees preferred to interact with a user-friendly website that they feel comfortable with when booking airline tickets online. The interviewees also preferred a website that provides a quick booking system that does not have many steps or pages. This finding was consistent with previous online shopping literature (Burke 2002; Gefen & Straub 2000; Jarvenpaa and Todd 1996-97; Reibstein 2002; Zeithaml et al. 2000) that suggests that ease of navigation and ordering as well as minimised effort required is critical in the online environment. According to Michael Reene's survey results, 96% of participants stated that a great website has to be easy to navigate (Gaudin 2002). Additionally, easier to navigate has been found to be one of the factors that makes e-commerce sites successful (Ernst &Young 1999). Ease-of-use was found to have the greatest impact on customers' valence of experience in an online context and the determinant of customer value (Chen & Dubinsky 2003), as well as being

a significant determinant of satisfaction in transaction cost analysis within e-commerce (Devaraj et al. 2002).

Finally, interviewees wanted the travel websites to provide them with several customer services, such as 'My Account', 'Membership', and travel promotions, whereby they can personalise their needs. Customers value these personalised and one-to-one marketing programs because these services are tailored to their individual unique needs and wants (Bakos 1998; Burk 2002). In this regard, customers might be able to gain privileged access through the site to their customised account pages and earn bonus points from their membership (McIvor et al. 2003), or the company might send a special promotion to its individual customers: for example, the travel company advises its customers when a particular trip becomes available (Walsh & Godfrey 2000). Such services in turn build up customer relationships or loyalty and increases customer retention (Burk 2002), while also locking in customers with the company (Amit & Zott 2001; Zott et al. 2000).

Thus, e-business operators may consider using these factors to create value and influence future customer behavioural intentions with the company, above and beyond offering complementary products and services.

The summary of the experiment and interview findings and their comparison with the previous research are shown in Table 6.2.

Table 6.2 Summary Results of this Study and Comparison to Previous Studies

Results of this study	Comparison to previous studies
The results from Experiment Two and the interviews showed that: 1. Closely related complementary product components offered by a travel website did not help enhance customers' perceived value in comparison to mixed-related complementary product components.	This result is not consistent with the studies of Harlam et al. (1995) and Herrmann et al. (1997). They suggest that customers prefer closely related bundled components to either moderately or unrelated components. This might be because the scenarios and products used in the studies are different. In their study participants were asked to choose a bundle of products/service. In contrast, in this study subjects were instructed to purchase any products that they wanted as a single item. Additionally, this study might have an effect from consumer purchase involvement. Subjects may have had low-involvement with the scenario provided. Subjects might not perceive a given scenario as a real-life situation. Thus, subjects might not be interested in any complementary products or services offered on the travel website besides hotels and car hire. The interviews also revealed that interviewees who had no travel plan in mind had no interest in searching for any complementary products or services offered. This will affect subjects' learning or searching for more information about what products and services offered. As suggested by Beatty and Smith (1987), purchase involvement has an influence on external search effort. Consequently, subjects might not see the difference between the products and services offered. Therefore, product components cannot be used to enhance customer value according to the results of this study.

Table 6.2 (Continued)

Results of this study	Comparison to previous studies
2. Wider complementary product ranges offered by a travel website help enhance customers' perceived value. The effect size of product range was moderate: partial eta squared (ηp^2) = .058, which indicates that the effects of product range itself accounted for 5.8% of the total variability in the customers' perceived value.	This study showed a role of wide product range offerings on customer value that is similar to that revealed in Wyner's (2001) study of perceptions of product offerings. Additionally, wide product range offerings have an influence on customer satisfaction (Burke 2002) and loyalty (Srinivasan et al. 2002), not directly affecting perceived value. This might be because these studies were based on the experience of current online customers. In contrast, the current study focuses on the scenario at the pre-purchase stage. Therefore, it can be concluded that wide product range offerings in the online environment can be used to create customer value, satisfaction and loyalty. This is because wide product ranges provide lower search costs, and minimise search efforts for shoppers (Guiltinan 1987; Eakin & Faruqui 2000; McIvor et al. 2003), which increases search convenience for shoppers (Seiders et al. 2000). In this study, a wide product range may increase search convenience and, in turn, create value for subjects.

Table 6.2 (Continued)

Results of this study	Comparison to previous studies
3. Greater number of online services (the ability to purchase, track their orders, and receive post-purchase support online) provided by a travel website enhance customers' perceived value rather than limited online services (only browse for information and send request for purchasing online). The effect size of online service was small to moderate: partial eta squared (η_p^2) = .019, which means that the online service effect accounted for 1.9% of the total variability in the customers' perceived value.	This study confirms the study results of Burke (2002) that when shopping online, customers want to have several online service facilities provided to them from the pre-purchase to post-purchase phase. For example, customers want to be able to pay via secure websites, receive confirmation emails, and track their shipment online. As suggested by Lumpkin and Dess (2004), the Internet can be used to add value through four value-adding activities: search, evaluation, problem-solving and transaction. These activities add value by providing transaction convenience for customers when shopping online (Seiders et al. 2000). In this study, greater online travel services include the ability to search, purchase, track orders, and receive post-purchase support online. The travel company that provides customers with a greater number of online travel services may help customers save time and reduce searching or other significant transaction costs (Seiders et al. 2000), which in turn creates value for customers.

Table 6.2 (Continued)

Results of this study	Comparison to previous studies
4. Greater number of offline services (call centres and physical retail stores) provided by a travel website does not enhance customers' perceived value compared to limited offline services (call centres only). However, greater offline services play a moderator role in enhancing perceived customer value of product range and online service offerings.	This study is not consistent with the studies of Amit and Zott (2001), Burke (2002), Steinfield et al. (1999, 2002), and Zhu (2004) who suggest that physical retail stores (clicks-and-mortar) can be integrated to create value for customers in any phase of the purchasing process from pre-purchase, to purchase, to post-purchase. This might be because this study only used the pre-purchase stage of the travel scenario. Physical retail stores might be seen to be important at the post-purchase stage in exchanging or returning products after making purchases online (Burke 2002; Simons et al. 2002; Steinfield et al. 2002). Additionally, the travel products used in this study are service products, e.g. airline tickets. Customers are now able to get an electronic ticket instead of paper tickets. Therefore, subjects might not see the importance of physical store support in this study. However, offline services, especially a physical store, played a moderator variable role in enhancing customer value of product range and online service interactions.

Table 6.2 (Continued)

Results of this study	Comparison to previous studies
5. Three-factor: product range, online service, and offline service interaction on customer value. The evidence of the three-factor interaction for product range, online service and offline service interactions on perceived value suggests that offline services can be used to enhance customers' perceived value of product range and online service offerings. The effect size of this three-factor interaction on customer value was small to moderate: partial eta squared (ηp^2) = .016, which means that the three-way interaction effects of product range and online services and offline services accounted for 1.6% of the total variability in the customers' perceived value. This interaction effect is actually the most interesting and informative part of the results because it reveals the complete story of this study. It indicates that two-way Product Range by Online Service effect differs at different levels of offline service (limited or greater). And the future analysis showed that: a) Greater offline service helps enhance customer value of product range and online service, and b) at the greater offline service level, product range had an effect on customer value when combined with greater online travel service but not limited.	This study extends Amit and Zott's (2001) study of value creation in e-business by focusing on customer value of four complementary products and services offered by B2C e-business operators. The results of this study also extend Steinfield et al.'s (2002) clicks-and-mortar strategy to include the ranges of complementary products as a source of customer value as well as illustrating the moderator role of offline physical retail stores in enhancing customer value of product range and online service offerings. This might be because offline physical retail stores can be used to enhance trust in the online shopping environment (Steinfield et al. 2002) by reducing risks and, in turn, increasing value. The convenience of flexibility of having physical retail store support also increases the value of online offerings (Burke 2002; Simons et al. 2002; Steinfield et al. 2002). On the basis of this finding, it appears that the integration of greater offline service and greater online service to the product range can help create customers' perceived value more than offering each of the three factors separately or offering only two factors at a time.

Table 6.2 (Continued)

Results of this study	Comparison to previous studies
6. A strong positive (r = .625) relationship between customers' perceived value of complementary products and services and behavioural intentions was found in this study. When people perceive greater value in the complementary products and services offered by B2C e-business, their intention to conduct business with the company again in future (e.g. search for products or services) may be greater. However, this study showed that customers' perceived value of these complementary products and services can be used to explain variation in customers' future behaviour by only 39%. Therefore, the interviews were conducted to reveal other factors that are important for customers when shopping online.	This finding was consistent with previous studies (Baker et al. 2002; Chen & Dubinsky 2003; Dodds et al. 1991; Kim 2004; Parasuraman et al. 2005). The results confirm the relationship between consumers' perceived value and behavioural outcomes. That is, consumers' perceived value was considered to be an important determinant of behavioural outcomes, such as the intention to search for product information, say positive things, recommend the company site to others, visit the company site again, and purchase products/services available on the company site.
7. Other factors influencing customers' perceived value of the offerings Besides complementary products and services offered, the interviews revealed another four main aspects that interviewees consider when shopping online: 7.1 Company aspects (for example, brand name, reliability, security, integrity). The interviews revealed that the interviewees were concerned about brand names or the reputation of the company when choosing the Internet vendor. They choose the brand that they feel they can rely on. This is because the interviewees linked the company brand name to security and reliability issues.	This is consistent with Brynjolfsson and Smith (2001) who found that customers use brand as a proxy for a retailer's credibility. This is because when shopping online, the issue of security is a primary concern for online shoppers (Harison-Walker 2002). Customers want to pay via a secure web page (Burke 2002). Brand name also plays a significant role as prices to infer product quality and refine their choice (Bolton & Drew 1991; Richardson et al. 1994; Teas & Agarwal 2000).

Table 6.2 (Continued)

Results of this study	Comparison to previous studies
7.2 Merchandising aspects (for example, price, quality). The interviews revealed that price was a common factor interviewees consider when choosing a product or service. They want the company to offer them value for money. Additionally, price is a sensitive factor for price-oriented interviewees. These interviewees were sensitive to the issue of price and preferred to shop around and find the cheapest price.	This is consistent with previous research (Jarvenpaa & Todd 1996-97; Korgaonkar & Wolin 1999; Margherio et al. 1998; Zeithaml et al. 2000; Anckar et al. 2002; Levin et al. 2003), which found that customers prefer to shop online because of the ease of comparing products and lower prices offered. Price is one of the main factors that influences the perception of product quality and value (Andrews & Valenzi 1971; Chen & Dubinsky 2003; Dodd et al. 1991; Gardner 1974; Monroe & Krishnan 1985; Render & O'Conner 1976).
7.3 User interface (for example, ease of use, ease of ordering). The interviews highlighted that the interviewees wanted the Internet vendor to provide them with ease-of-use, ability to quickly book and a booking interface with which they feel comfortable.	This finding was consistent with previous online shopping literature (Jarvenpaa & Todd 1996-97; Zeithaml et al. 2000; Burke 2002; Reibstein 2002), which suggests that ease of navigation and ordering as well as minimised effort is critical in the online environment. Ease-of-use was found to have the greatest impact on customers' valence of experience in an online context and the determinant of customer value (Chen & Dubinsky 2003).
7.4 customer services (for example, membership points, special promotions). Interviewees suggested that they wished to see several customer services from travel websites, such as 'My Account', 'Membership' and travel promotions, so they can personalise their needs.	This is consistent with McIvor et al. (2003). The offering of personalised and one-to-one marketing programs helps companies build up customer relationships or loyalty and increases customer retention (Bakos 1998; Burk 2002) as well as locking in customers with the company (Amit & Zott 2001; Zott et al. 2000).

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6.2.4 Summary

On the basis of these findings, it appears that the synergy of a greater number of offline services and a greater number of online services to product range can be used to enhance customers' perceived value of B2C e-business offerings. This study extends Amit and Zott's (2001) value creation in e-business by focusing on customer value of complementary products and services offered by B2C e-business operators. The results of this study also extend Steinfield et al.'s (2002) clicks-and-mortar strategy to include product range complementarities as a source of customer value. The joint offering of product range, online services, and offline services complementarities expresses the fact that product range, online services, and offline services together develop synergies that increase perceived value beyond what can be expected by each of the three factors separately. Customer benefits from shopping convenience may arise when offering a bundle of these three factors together rather than offering only one or two factors at a time. No one product or service is superior by itself but when combined with a range of products, and online and offline services a powerful value proposition is created for the customer (McIvor et al. 2003).

Thus, it is suggested that a travel company may create customer value by offering the integration of physical stores and greater online facilities to the product range. This will allow customers to easily and quickly find products that cater to their needs and enable them to conduct transaction online, as well as having physical stores that provide support offline when required. This value, in turn, influences customers' future behaviour to conduct the business with that company.

Besides complementary products and services offerings, the interview findings suggested other factors that can be used to create customer value of travel products and

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services. These factors are (1) company aspects (for example, brand name, reliability, security and integrity), (2) merchandising aspects (for example, price and quality), (3) user interface (for example, ease of use and ease of ordering), and (4) customer services (for example, membership points and special promotions).

6.3 Implications for Practice

This study provides empirical evidence for the existence of complementary synergy between products and services offered in B2C e-business. The significant three-factor interaction of travel product range, online travel service, and offline travel service on value perception indicates that the integration of these factors reinforces the individual main effects and contributes to perceived customer value of these offerings. Thus, integrated together, a bundle of offerings provides more customer value in B2C e-business than offering each of them separately. This information is valuable for B2C e-business operators to understand how the offering of complementary products and services relates to value creation in B2C e-business. One implication of this study for B2C e-business operators is the importance of the integration of product range, online service, and offline service complementarities in enhancing customer value, which in turn significantly affects customers future behavioural intentions (i.e. to search for product information, purchase products from the company, revisit the company, say positive things about the company, or recommend the company to others).

Thus, B2C e-business operators should recognise the importance of the integration of these complementary products and services when offering products and services to customers. The interaction gives important insight into the true relationship among these factors and their effect on customers' perceived value more than considering

one factor at a time. A bundle of a wide range of products, greater online service, and greater offline service complementarities will help increase the shopping convenience in providing the ability to search from a wide variety of products offered, transact orders purchased online, as well as the flexibility to access physical stores where customers are able to talk face-to-face with sales personnel. This, in turn, is more likely to create value for shoppers and increase their likelihood to do business with that B2C e-business operator in the future.

Another important finding of this study suggests that not only should companies offer complementary products and services to influence future customer behavioural intentions, but B2C e-business operators should also consider using other factors such as building company reputation, offering good quality services at lower prices, providing a user-friendly website, and offering customer relationship or loyalty programs (e.g. website point accumulation or special promotions for existing customers). These factors might help attract new customers to make a purchase and retain current customers to continue their purchasing online with that company.

6.4 Limitations of the Study

Similar to other studies, this study should be evaluated in light of the following limitations. First, the experimental travel websites developed in this study were a prototype version only. They were useful and yielded valuable information about participants' preferences and what they considered to be important factors in their intention to remain a customer of that travel website: for example, how they rated issues of search intentions, revisit intentions, and purchase intentions. However, the experimental travel websites in this study were incomplete. The information about the

company register, company alliances/partners, and the third party security organisation had not yet been included in the experimental websites. Moreover, there was no 'basket'[2] system or shopping cart implemented for the checking out process. Additionally, information on some travel products and services had not been completed. Such incomplete information may have impacted on the respondents' evaluations.

Second, this study used online travel services only as a product to test the developed hypotheses, so the generalisation of the results, therefore, is limited to the travel industry. Customers' perceived value of complementary products and services may differ when a product sample is changed. For example, the main effect of offline complementarity goods and services that was not supported in this study with a service product might be different if the product sample were tangible products, such as computers, which might require more in-store salesperson support.

Third, the experimental method used in this study might not reflect the real-life quality of natural conditions (Touliatos & Compton 1988) since it is highly controlled by the researcher. Although a scenario describing a typical travel situation was given to subjects to increase the reality of the experiment, this travel scenario might not reflect a real shopping situation for these subjects. Furthermore, several factors related to the experimental procedure, such as having limited time in performing given tasks in front of the computer and following the instructions provided, may have reduced the realism of the shopping scenario.

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[2] Shopping cart software that allows online shopping customers to place items in the cart. Upon checkout, the software typically calculates a total for the order, including shipping and handling (i.e. postage and packing) charges and the associated taxes, as applicable (*http://en.wikipedia.org/wiki/Shopping_cart_software*).

Fourth, the experimental method used in this study might have a weakness. This is because the subjects might not follow the instructions given to them carefully. They might not notice or follow through by clicking a particular TAB on the website as instructed. Consequently, they might miss the relevant section. Their subsequent response to the questionnaire, therefore, may be erroneous.

Fifth, the experimental travel website, L&N, created for this study is an unknown brand name. This might affect subjects' trust when response to the questionnaire. Subjects' response may then be erroneous if they are loyalty to their well-known travel website.

Finally, non-probability samples used in this study prohibit estimating the probability that any population element will be included in the sample (Churchill & Iacobucci 2005). Therefore, the results should be viewed with caution and may not refer to the population.

6.5 Future Research

The results of this study serve as a preliminary step towards a better understanding and application of value creation in B2C e-business by using complementary products and services. For future research, there are several directions that may be developed from this study. First, in order to generalise the concepts, future research on value creation using complementary product and service offerings should be extended to incorporate several types of products, including tangible products.

Second, future research should improve the travel website created in this study by adding more information and services to make the website similar to a real travel website.

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These might include information about the company register, the third party security organisation and company alliances/partners, as well as products and/or service information. This might help increase company reliability in the real shopping online situation. Additionally, the modified travel website should include the 'basket' system that makes the checking out process more efficient. Moreover, some services such as 'Membership' or 'My Account' should be included in the website as suggested by the interviewees, to make the website more complete.

Third, this study investigated customer value of complimentary travel products and services offered by travel websites and its influence on future behavioural intentions using data from RMIT University postgraduate business students and friends. Future research may replicate this study by using other population groups to verify the research findings.

Fourth, this study found that complementary travel product did not have a significant effect on customers' perceived value, which is not consistent with the previous literature. Future research should investigate this relationship with more carefully created scenario instructions. For instance, the given scenario might need to provide more background information on the destination, such as what to do and where to go. Further, in order to lead subjects to get more involved in the scenario, subjects might be asked to plan their trip by identifying what products, services or activities they need or are interested in for their trip as well as asking them to shop from their shopping list in the shopping exercise.

Finally, further variables that may affect customer value in B2C e-business should be investigated. This study focused only on the influence of complementary products and

services offered by B2C e-business on customer value. However, the study revealed that customers' perceived value of complementary products and services offered could be used to explain their future behaviour towards the company only 39%. Thus, future research should include other factors that might affect customers' perceived value of the offering and influence their behavioural intentions. For instance, in a real situation, these complementary offerings would be affected by a company brand name that customers can trust and rely on as well as how easy it is to find and order products from the website, as revealed by the interviewees. It might be fruitful for future research to explore other factors in addition to complementary product and service offerings on customers' perceived value, such as company brand name (Dodds et al. 1991)—a point supported by the interview findings.

6.6 Conclusion

E-business can be viewed as a new way of doing business and creating value for customers (Keeney 1999; Han & Han 2001). This study provides evidence of a difference in customers' value perception as a function of four complementary products and services offered between the websites using online travel products: product component (closely related vs. mixed-related), product range (wide vs. narrow), online service (greater vs. limited), and offline service (greater vs. narrow). This study revealed a main effect from the travel product range on customers' perceived value. Subjects who were exposed to websites with a wide travel product range perceived greater value than those who were exposed to websites with a narrow travel product range. A wide travel product range can thus help create shopping convenience and lower search costs, which in turn helps create value.

This study showed that subjects who were exposed to websites with a greater number of online travel services place a greater perceived value on these websites, compared to those who were exposed to websites with limited online travel services. According to Burke (2002), one-click ordering helps create value for online customers. In addition, the ability to track the order as well as receive after-sales services online may generate higher value for customers. Thus, greater online services may create higher value perceptions for B2C e-business operators.

This study failed to reveal the effects of any two-factor interaction because subjects considered three factors together, rather than two factors, when shopping online. The results revealed the interaction effects of the three factors product range, online service and offline service on perceived value. The findings showed that offline travel services can be used to enhance perceived value of travel product range and online travel service offerings. This suggests that offline travel services may be used to provide complementary services for online travel sales. When shopping online, people may want to have a physical store to support their online transaction, which in turn increases trust for online shoppers. A bundle of complementary physical stores with wide product ranges and greater online service complementarities, therefore, can help create value for customers in online shopping. By adopting the integration of these three complementary products and services, e-business operators are able to find new ways to add to customer value. This offers a theoretical extension to the B2C e-business value creation research stream by highlighting the role of complementarities as a source of customer value creation in B2C e-business.

However, this study failed to reveal the main effects for travel product component and offline travel services on customers' perceived value. The subjects in this study

might not have experienced a difference between the components of products offered because they had no plan or goals at the time of participating in this research. Also, offline travel services might not be a major concern when shopping online, especially for service products. However, offline travel services play a moderator role in enhancing the value of product range and online services offerings. When a greater number of offline travel services are integrated, customers' perceived value of product ranges and online services are greater than with limited offline services. Further analysis of this significance revealed that at the greater offline travel services level, product range had an effect on customer value when combined with greater online travel service rather than limited. Therefore, it is suggested that in order to create complementarity value for customers, B2C e-business operators should offer a range of products together with a greater number of both offline and online services.

Finally, this study revealed a positive relationship between perceived value and behavioural intentions. People who perceive a high positive value in complementary products and services offered by an e-business operator are likely to do more business with that e-business operator in the future.

Besides complementary products and services offerings, the interview findings also suggested that price, company name, ease-of-use, and customer services were other important factors when choosing a website from which to purchase. Therefore, e-business operators should consider these factors when offering products and services to their customers via the Internet to influence future customer behavioural intentions towards their company.

REFERENCES

Aaker, DA, Kumer, V & Day, GS 2001, *Marketing research,* 7th edn, John Wiley & Sons, Inc., New York.

ACNielsen 2005, *ACNielsen Announces One-Tenth of the World's Population Shopping Online: 627 Million People Have, including 325 Million in the Last Month,* viewed 6 June 2008, <http://www2.acnielsen.com/news/20051019.shtml>.

ACNielsen 2006, *Aussies' online spending tops $11 billion*, viewed 6 June 2008, <http://au.acnielsen.com/news/20060918.shtml>.

Adam, S 2002, 'A model of Web use in direct and online marketing strategy', *Electronic Markets*, vol.12, no. 4, pp. 262-269.

Adams, WJ & Yellen, JL 1976, 'Commodity bundling and the burden of monopoly', *Quarterly Journal of Economics*, vol. 90, August, pp. 475-98.

Adelaar, T, Bouwman, H & Steinfield, C 2004, 'Enhancing customer value through click-and-mortar e-commerce: implications for geographical market reach and customer type', *Telematics and Informatics*, vol. 21, pp. 167-182.

Ajzen, I 1991, 'The theory of planned behavior', *Organizational Behavior and Human Decision Processes*, vol. 50, no.2, pp. 179-211.

Alba, J, Lynch, J, Weitz, B, Janiszewski, C, Lutz, R, Sawyer, A & Wood, S 1997, 'Interactive home shopping: consumer, retailer, and manufacturer incentives to participate in electronic marketplaces', *Journal of Marketing,* vol. 61, July, pp. 38-53.

Allbusiness.com 2005, *CE shopping continues shift to e-Tail*, viewed 1 May 2008, <www.allbusiness.com/retail/retailers-nonstore-retailers-mail-order-internet/6229502-1.html>.

Amit, R & Zott, C 2001, 'Value creation in e-business', *Strategic Management Journal,* vol. 22, pp. 493-520.

Ancarani, F 2002, 'Pricing and the Internet: frictionless commerce or pricer's paradise', *European Management Journal,* vol. 20, no. 6, pp. 680-687.

Anckar, B & Walden, P 2000, 'Becoming your own travel agent: A web of potentials and pitfalls', Proceedings of the 33 rd Hawaii International Conference on System Sciences.

Anckar, B, Walden, P & Felassi, T 2002, 'Creating customer value in online grocery shopping', *International Journal of Retail & Distribution Management*, vol. 30, no. 4, pp. 211-220.

Andrews, IR & Valenzi, ER 1971, 'Combining price, brand and store cues to form an impression of product quality', in Dodds, WB, Monroe, KB & Grewal, D 1991, 'Effects of price, brand, and store information on buyers' product evaluations', *Journal of Marketing Research*, vol. 28, no. 3, pp. 307-319.

Ansari, A, Siddarth, S & Weinberg, CB 1996, 'Pricing a bundle of products or services: the case of nonprofits', *Journal of Marketing Research*, vol. 33, no. 1, pp. 86-93.

Atwood, J 2007, *Online newspapers, offline*, viewed 21 May 2008, <www.codinghorror. com/blog/archives/000944.html>.

Austrade 2006**,** *ICT exports travel faster and farther with online sales*, viewed 23 May 2008, <www.austradeict.gov.au/Feature-story/default.aspx>.

Babin, BJ, Darden, WR & Griffin, M 1994, 'Work and/or fun: measuring hedonic and utilitarian shopping value', *Journal of Consumer Research,* vol. 20, pp. 644-656.

Bagozzi, RP 1977, 'Structure equation models in experimental Research', *Journal of Marketing Research,* vol. 14, no. 2, pp. 209-236.

Baker, J, Parasuraman, A, Grewal, D & Voss, GB 2002, 'The influence of multiple store environment cues on perceived merchandise value and patronage intentions', *Journal of Marketing,* vol. 66, April, pp. 120-141.

Bagozzi, RP 1980, *Causal Models in Marketing*, John Wiley, New York.

Balasubramanian, S 1998, 'Mail versus mall: a strategic analysis of competition between direct marketers and convention retailers', *Marketing Science,* vol. 17, no. 3, pp. 181-195.

Ballantine, PW 2005, 'Effects of interactivity and product information on consumer satisfaction in an online retail setting', *International Journal of Retail & Distribution Management*, vol. 33, no. 6, pp. 461 – 471.

Bakos, Y 1998, 'The emerging role of electronic marketplaces on the Internet, *Association for Computing Machinery.Communication of the ACM*, vol. 41, no. 8, pp. 35-42.

Barua, A, Lee, SCH & Whinston, AB 1996, 'The calculus of reengineering', *Information Systems Research*, vol. 7, no. 4, pp. 409-428.

Barua, A, Konana, P, Whinston, AB & Yin, F 2001, 'Driving e-business excellence', *MIT Sloan Management Review*, vol. 43, no. 1, pp. 36-44.

Beatty, SE & Smith, SM 1987, 'External search effort: an investigation across several product categories, *Journal of Consumer Research*, vol. 14, June, pp. 83-95.

Becker, LA 1999, *General Linear Model (GLM): 3-Way, Between-Subjects Designs*, viewed 17 December 2007, < http://web.uccs.edu/lbecker/SPSS/glm_3way.htm#3.%20 Testing%20 the%20Assumptions>.

Bell, GH, Ledolter, J & Swersey, AJ 2006, 'Experimental design on the front lines of marketing: testing new ideas to increase direct mail sales', *International Journal of Research in Marketing*, vol. 23, pp. 309-319.

Berg, LB 1998, *Qualitative research methods for the social sciences,* 3rd edn, Allyn and Bacon, Boston, MA.

Berry, LL & Yadav, MS 1996, 'Capture and communicate value in the pricing of services', *Sloan Management Review*, Summer, pp. 41-51.

Bertsch,T, Busbin, J & Wright, N 2002, 'Gaining competitive advantage in e-tailing through marketing management and value-added uses of technology', *Competitiveness Review*, vol. 12, no. 2, pp. 49-56.

Betts, M 2001, 'Turning browsers into buyers', *MIT Sloan Management Review*, vol. 42, no. 2, pp. 8-9.

Bhattacherjee, A 2001, 'An empirical analysis of the antecedents of electronic commerce service continuance', *Decision Support Systems*, vol. 32, no. 2, pp. 201-214.

Bogdan, RC & Biklen, SK 2003, *Qualitative research in education: an introduction to theory and methods,* 4th edn, Allyn and Bacon, Boston, MA.

Bolton, RN & Drew, JH 1991, 'A multistage model of consumers' assessments of service quality and value, *Journal of Consumer Research,* vol. 17, no. 4, pp. 375-384.

Brynjolfsson, E & Smith, MD 2001, 'The great equalizer? Consumer choice behavior at Internet shopbots', MIT Sloan Working Paper No. 4208-01*,* viewed 2 May 2008, <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=290323>.

Burke, RR 2002, 'Technology and the customer interface: what consumers want in the physical and virtual store. *Academy of Marketing Science Journal,* vol. 30, no. 4, pp. 411-432.

Burns, MJ & Woodruff, RB 1992, 'Delivering value to consumers: implications for strategy development and implication', in Woodruff, RB 1997, 'Customer value: the next source for competitive advantage', *Journal of the Academy of Marketing Science*, vol. 25, no. 2, pp. 139-153.

Bushrod, L 2000, 'Report on e-commerce value creation', *European Venture Capital Journal*, November 1, pg.1.

Calder, BJ, Phillips, LW & Tybout, AM 1981, 'Designing Research for Application', *Journal of Consumer Research*, vol. 8, September, pp. 197-207.

Carlson, C 2000, 'Customer service: an essential component for a successful website', *Marketing Health Services*, vol. 20, no. 2, pp. 28-31.

Cappel, JJ & Myerscough, MA 1997, 'Using the World Wide Web to gain a competitive advantage', *Information Strategy: The Executive's Journal*, vol. 13, no. 3, pp. 6-14.

Chang, JC, Torkzadeh, G & Dhillon, G 2004, 'Re-examining the measurement models of success for Internet commerce', *Information & Management,* vol. 41, pp. 577-584.

Chen, Z & Dubinsky, AJ 2003, 'A conceptual model of perceived customer value in e-commerce: a preliminary investigation', *Psychology & Marketing*, vol. 20, no. 4, pp. 323-336.

Chernev, A 2005, 'Feature complementarity and assortment in choice', *Journal of Consumer Research*, vol. 31, no. 4, pp. 748-759.

Chiu, YB, Lin, CP & Tang, LL 2005, 'Gender differs: assessing a model of online purchase intentions in e-tail service', *International Journal of Service Industry Management*, vol. 16, no. 5, pp. 416-435.

Churchill, GA, Jr 1979, 'A paradigm for developing better measures of marketing constructs', *Journal of Marketing Research*, vol. 16, no. 1, pp. 64-73.

Churchill, GA, Jr & Iacobucci, D 2005, *Marketing research: methodological foundations,* 9th edn, South-Western, Inc., Ohio.

Cohen, J 1977, *Statistical power analysis for the behavioral sciences*, Revise edn, Academic Press, Inc., New York.

Cohen, J, Cohen, P, West, SG & Aiken, LS 2003, *Applied multiple regression/ correlation analysis for the behavioural sciences*, 3rd edn, Lawrence Erlbaum, Mahwah, NJ.

Coltman, T, Devinney, T, Latukefu, A & Midgley, D 2002, 'Keeping e-business in perspective', *Communications of the ACM*, vol. 45, no. 8, pp. 69-73.

ComScore 2002, 17 July*, Traffic to sports and travel sites surges in June 2002 and e-commerce continues double-digit growth,* viewed 9 May 2008, <http://findarticles.com/p/articles/mi_pwwi/is_200207/ai_mark02044622>

Coughlan, AT, Anderson, E, Stern, L & El-Ansary, A 2001, *Marketing channels*, 6th edn, Prentice Hall, Upper Saddle River, New Jersey.

Crane, J, Globe Correspondent 2001, *Click-and-mortar established retailers like Talbots emerge as e-commerce winners by integrating Web sites into sales strategies*, 3rd edn, Boston Globe, Boston, Mass.: Nov 28, pg. F.4.

Creswell, JW 1998, *Qualitative inquiry and research design: choosing among five traditions.* Sage Publications, Thousand Oaks, California.

Creswell, JW 2007, *Designing and conducting mixed methods research,* Sage Publications, Thousand Oaks, California.

Cronbach, LJ 1951, 'Coefficient alpha and the internal structure of tests', *Psychometrika*, vol. 16, pp. 297-335.

Cronbach, LJ & Meehl, P 1955, 'Construct validity in psychological tests', *Psychological Bulletin*, vol. 52, no. 4, pp. 281-302, viewed 5 March 2008, <http://psychclassics.yorku.ca/Cronbach/construct.htm>.

Cronin, JJ, Brady, MK & Hult, GTM 2000, 'Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments', *Journal of Retailing*, vol. 76, no. 2, pp. 193-218.

Currie, W 2004, *Value creation: from e-business models*, Elsevier Butterworth-Heinemann, Oxford.

Dallal, GE 2007, *Multi-Factor Analysis of Variance,* viewed 3 January 2008, <www.tufts.edu/~gdallal/anova2.htm>.

Davis, F 1989, 'Perceived usefulness, perceived ease of use and user acceptance of information technology', *MIS Quarterly*, vol. 13, no. 3, pp. 319-340.

Davis, FD, Bagozzi, RP & Warshaw, PR 1989, 'User acceptance of computer technology: a comparison of two theoretical models', *Management Science*, vol. 35, no. 8, pp. 982-1003.

Davis, J 2001, 'Going multichannel', *InfoWorld*, vol. 23, no. 20, pg. 46.

Devlin, JF 2001, 'Consumer evaluation and competitive advantage in retail financial services: a research agenda', *European Journal of Marketing*, vol. 35, no. 5/6, pp. 639-660.

Devaraj, S, Fan, M & Kohli, R 2002, 'Antecedents of B2C channel satisfaction and preference: validating e-commerce metrics', *Information Systems Research*, vol. 13, no. 3, pp. 316-333.

Dodds, WB, Monroe, KB & Grewal, D 1991, 'Effects of price, brand, and store information on buyers' product evaluations', *Journal of Marketing Research*, vol. 28, no. 3, pp. 307-319.

Eakin, K & Faruqui, A 2000, 'Bundling value-added and commodity services in retail electricity markets', *The Electricity Journal*, vol. 13, no. 10, pp. 60-68.

Easton, VJ & McColl, JH 1997, *Statistics glossary[v1.1]*, viewed 14 January 2008, <www.stats.gla.ac.uk/steps/glossary/anova.html#facdes>.

Edvardsson, B & Gustavsson, B 1992, 'Problem detection in service management systems: a consistency approach to quality improvement', in Kandampully, J & Promsivapallop, P 2005, 'Service networks: a framework to match customer needs, service offer, and operational activities', *Journal of Hospitality & Leisure Marketing,* vol. 13, no. 3/4, pp. 101-117.

Engel, JF & Blackwell, RD 1982, *Consumer behavior*, in Beatty, SE & Smith, SM 1987, 'External search effort: an investigation across several product categories, *Journal of Consumer Research*, vol. 14, June, pp. 83-95.

Ernst & Young 1999, *Internet shopping study: overview of eCommerce*, viewed 26 May 2008, <http://ils.unc.edu/~pottl/inls310/ecommerce/general.html>.

Farhoomand, A & Lovelock, P 2001, *Global e-commerce: text and cases*, Prentice Hall, Singapore.

Fellenstein, C & Wood, R 1999, *E-business enables*, viewed 20 May 2008, <www.informit.com/articles/article.aspx?p=164570&seqNum=4>.

Filson, D 2004, 'The impact of E-commerce strategies on firm value: lessons from Amazon.com and its early competitors', *The Journal of Business*, April, vol. 77, no.2, pp. S135-S154.

Fishbein, M & Ajzen, I 1975, *Beliefs, attitude, intention, and behavior*, Addison-Wesley, Reading, MA.

Forsythe, SM & Shi, B 2003, 'Consumer patronage and risk perceptions in Internet shopping', *Journal of Business Research*, vol. 56, no. 11, pp. 867-875.

Friedman, LG & Furey TR 1999, *The channel advantage: going to market with multiple sales channels to reach more customers, sell more products, make more profit*, Butterworth-Heinemann, Boston.

Gaeth, GJ, Levin, IP, Chakraborty, G & Levin, AM 1990, 'Consumer evaluation of multi-product bundles: an information integration analysis', *Marketing Letters,* vol. 2, December, pp. 47-57.

Gale, Expanded Academic ASAP 2003, 'E-commerce truly shakes up traditional retailing', *New Media Age* 1364-7776, pg. 19.

Gardner, DM 1974, 'Is the price/quality relationship important?', in Dodds, WB, Monroe, KB & Grewal, D 1991, 'Effects of price, brand, and store information on buyers' product evaluations', *Journal of Marketing Research*, vol. 28, no. 3, pp. 307-319.

Garson, GD 2007, *Univariate GLM, ANOVA, and ANCOVA,* views 20 January 2008, <www2.chass.ncsu.edu/garson/PA765/anova.htm>.

Gaudin, S 2002, *Is your site getting the Internet death penalty*?, viewed 23 May 2008, <http://itmanagement.earthweb.com/ecom/article.php/1145241>.

Gefen, D & Straub, D 2000, 'The relative importance of perceived ease of use in IS adoption: a study of e-commerce adoption', *Journal of the Association for Information Systems*, volume 1, Article 8, viewed 3 January 2008, <http://jais.aisnet.org//articles/1-8/article.htm>.

Ghosh, S 1998, 'Making business sense of the Internet', *Harvard Business Review*, vol. 76, no.2, pp. 126-135.

Gorham, G & Rice, S 2007, *Travel perspectives: a guide to becoming a travel professional*, 4th edn, Thomson Delmar Learning, New York.

Grau, J 2006, *Online Travel Sales to Boom*, viewed 23 May 2008, <www.imediaconnection.com/content/9953.asp>.

Grau, J 2007, *US online travel: the threat of commoditization*, viewed 23 May 2008, <www.emarketer.com/Reports/All/Emarketer_2000387.aspx>.

Grau, J 2008, *Asia-Pacific B2C e-commerce: focus on China and India*, viewed 23 May 2008, <www.emarketer.com/Reports/All/Emarketer_2000455.aspx?src=report_head_info_Sitesearch>.

Green, PE & Srinivasan, V 1978, 'Conjoint analysis in consumer research: issues and outlook', *Journal of Consumer Research*, vol. 5, September, pp. 103-123.

Green, PE, Krieger, AM & Vavra, TG 1997, 'Evaluating new products', *Marketing Research Forum,* Winter, pp. 12-21.

Greenstein, M & Feinman, TM 2000, *Electronic Commerce*, Irwin/McGraw-Hill, Boston.

Griffith, DA & Krampf, RF 1998, 'An examination of the Web-based strategies of the top 100 U.S. retailers', *Journal of Marketing Theory and Practice,* vol. 6, no.3, pp. 12-23.

Gronroos, C 1997, 'Value driven relational marketing: from products to resources and competencies', *Journal of Marketing Management,* vol. 13, no.5, pp. 407-419.

Gronroos, C 2007, *Service management and marketing: customer management in service competition*, 3 rd edn, John Wiley & Sons, Chichester, England.

Guiltinan, JP 1987, 'The price bundling of services: a normative framework', *Journal of Marketing*, vol. 51 (April), pp. 74-85.

Gulati, R & Garino, J 2000, 'Get the right mix of bricks & clicks!' *Harvard Business Review*, vol. 78, no. 3, pp. 107-114.

Gummesson, E 1999, *Total relationship marketing: rethinking marketing management from 4Ps to 30 Rs*, Butterworth Heinemann, Oxford.

Haig, M 2003, *The B2B e-commerce handbook*, Kogan Page Ltd., United Kingdom.

Hair, JF 2006, *Multivariate data analysis*, 6th edn, Prentice Hall, Upper Saddle River, New Jersey.

Han, J & Han, D 2001, 'A framework for analyzing customer value of Internet business', *Journal of Information Technology Theory and Application,* vol. 3, no. 5, pp. 25-38.

Harlam, BA, Krishna, A, Lehmann, DR, & Mela, C 1995, 'The impact of bundle type, price framing and familiarity on purchase intention for the bundle,' *Journal of Business Research*, vol. 33, pp. 57-65.

Harrison-Walker, J 2002, 'If you build it, will they come? Barriers to international e-marketing', *Journal of Marketing Theory and Practice*, vol. 10, no, 2, pp. 12-21.

Hawkins, DI, Roger, JB & Coney, KA 1986, *Consumer behavior: implications for marketing strategy*, in Beatty & Smith 1987.

Hays, WL 1994, *Statistics*, 5th edn, Wadsworth, Belmont, CA.

Heiman, A & Muller, E 1996, 'Using demonstrations to increase new product acceptance: controlling demonstration time', *Journal of Marketing Research*, vol. 33, no. 4, pp. 422-430.

Herrmann, A, Huber, F & Coulter, RH 1997, 'Product and service bundling decisions and their effects on purchase intention', *Pricing Strategy &Practice,* vol. 5, no. 3, pg. 99-107.

Hinkle, DE & Oliver, JD 1983, 'How large should the sample be? A question with no simple answer? Or….in Keppel, G 1991, *Design and analysis: A researcher's handbook,* 3rd edn, Prentice Hall, Englewood Cliffs, New Jersey.

Hirschman, EC & Holbrook, MB 1982, 'Hedonic consumption: emerging concepts, methods and propositions', *Journal of Marketing,* vol. 46, Summer, pp. 92-101.

Hoffman, DL, Novak, TP & Chatterjee, P 1995, 'Commercial scenarios for the Web: opportunities and challenges', *Journal of Computer-Mediated Communication*, vol. 1, no. 3, viewed 30 September 2006, <http://jcmc.indiana.edu/vol1/issue3/hoffman.html>.

Holbrook, MB1999, *Consumer value: a framework for analysis and research,* Routledge: London.

Holland, CW & Cravens, DW 1973, 'Fractional factorial experimental designs in marketing research', *Journal of Marketing Research*, vol. X (August), pp. 270-276.

Horton, RL 1976, 'The structure of decision risk: some further progress', *Journal of Academy of Marketing Science*, vol. 42, no.3, pp.102-108.

Howard, JA & Sheth, JN 1969, *The theory of buyer behavior*, in Beatty, SE & Smith, SM 1987, 'External search effort: an investigation across several product categories, *Journal of Consumer Research*, vol. 14, June, pp. 83-95.

Humburg, C, Hoyer, WD & Fassnacht, M 2002, 'Service orientation of a retailer's business strategy: dimensions, antecedents, and performance outcomes', *Journal of Marketing*, vol. 66 (October), pp. 86-101.

Huizingh, E 2000, 'The content and design of web sites: an empirical study', *Information & Management*, vol. 37, no. 3, pp. 123-134.

Instructional Assessment Resources, 2007, *Evaluate programs: analyzing interview data,* viewed 5 June 2008, <www.utexas.edu/academic/diia/assessment/iar/programs/report/ interview-Analysis.php>.

Itl.nist.gov 2006, *NIST/SEMATECH e-Handbook of Statistical Methods*, viewed 14 January 2008, <www.itl.nist.gov/div898/handbook/pri/section3/pri333.htm>.

Jaccard, J 1998, *Interaction Effects in Factorial Analysis of Variance*, Quantitative Applications in the social sciences, Series Number 118, Sage Publications, Thousand Oaks, California.

James, C 2001, 'New products of new processes?', *Sales & Marketing Management*, vol. 153, no. 5, pp. 30-32.

Jarvenpaa, SR & Todd, PA 1996-97, 'Consumer reactions to electronic shopping on the World Wide Web', *International Journal of Electronic Commerce*, vol. 1, no. 2, pp. 59-88.

Jick, TD 1979, 'Mixing qualitative and quantitative methods: triangulation in action', *Administrative Science Quarterly*, December, vol. 24, pp. 602-611.

Jones, J 2007, *Stats: Two-Way ANOVA*, viewed 14 January 2008, <www.richland.edu/james/lecture/m170/ch13-2wy.html>.

Kalakota, R & Whinston, AB 1997, *Electronic commerce: a manager's guide*, Reading, Mass.: Addison-Wesley.

Kalakota, R & Robinson, M 1999, *E-business: roadmap for success,* Reading, Mass.: Addison-Wesley.

Kambil, A, Ginsberg, A & Bloch, M 1997, 'Rethinking value propositions', in Currie, W 2004, *Value creation: from e-business models*, Elsevier Butterworth-Heinemann, Oxford.

Kandampully, J & Duddy, R 1999, 'Competitive advantage through anticipation, innovation and relationships', *Management Decision*, vol. 37, no. 1, pp. 51-56.

Kandampully, J 2000, 'The impact of demand fluctuation on the quality of service: a tourism industry example', *Managing Service Quality*, vol. 10, no. 1, pp. 10-18.

Kandampully, J & Promsivapallop, P 2005, 'Service networks: a framework to match customer needs, service offer, and operational activities', *Journal of Hospitality & Leisure Marketing,* vol. 13, no. 3/4, pp. 101-117.

Karpinski, A 2006, *Factorial ANOVA: Higher order ANOVAs*, viewed 14 December, 2007, <http://astro.temple.edu/~andykarp/psych522524/08_Factorial2.pdf >.

Kaynama, SA & Black, CI 2000, 'A proposal to assess the service quality of online travel agencies: an exploratory study', *Journal of Professional Services Marketing*, vol. 21, no. 1, pp. 63-88.

Keeney, RL 1999, 'The value of Internet commerce to the customer', *Management Science,* April*,* vol. 45, no. 4, pp. 533-542.

Keppel, G 1991, *Design and analysis: A researcher's handbook,* 3rd edn, Prentice Hall, Englewood Cliffs, New Jersey.

Kerr, AW, Hall, HK & Kozub, SA 2002, *Doing statistics with SPSS*, Sage Publications, Thousand Oaks, California.

Key, JP 1997, *Research Design in Occupational Education*, Oklahoma State University, viewed 12 January 2008, <www.okstate.edu/ag/agedcm4h/academic/aged5980a/5980/newpage2.htm>.

Kim, I 2001, *Investigating effect of consumers' perceived risk on purchase intention in Internet shopping,* PhD thesis, Purdue University.

Kim, J 2004, *Effects of perceived merchandise quality and service quality on consumer shopping behavior in the Internet apparel retailing environment,* PhD thesis, Iowa State University.

Kim, LH, Kim, DJ & Leong, JK 2005, 'The effect of perceived risk on purchase intention in purchasing airline tickets online', *Journal of Hospitality & Leisure Marketing,* vol. 13, no. 2, pp. 33-53.

Kirk, RE 1995, *Experimental design: procedures for the behavioral sciences*, 3rd edn, Brooks/Cole, Pacific Grove, Calif.

Kolesar, MB & Galbraith, RW 2000, 'A service marketing perspective on e-retailing: implications for e-retailers and directions for further research', *Internet Research*, vol. 10, no. 5, pp. 424-438.

Korgaonkar, PK & Wolin, LD 1999, 'A multivariate analysis of web usage', *Journal of Advertising Research*, vol. 39, pp. 53-68.

Kruger, R 1999, 'Where retail meets e-tail', *Discount Merchandiser*, vol. 39, no. 4, pp. 57-59.

Lattin, JM & McAlister, L 1985, 'Using a variety seeking model to identify substitute and complementary relationships among competing products', *Journal of Marketing Research,* vol. 22, August, pp. 330-339.

Lawrence, E, Newton, S, Corbitt, B, Lawrence, J, Dann, S & Thanasankit, T 2003, *Internet commerce: digital models for business*, 3rd edn*,* John Wiley & Sons, Australia, Qld.

Lawton, T & Michaels, K 2001, 'Advancing to the virtual value chain: learning from the Dell model', *Irish Journal of Management,* vol. 22, no.1, pp. 91-112.

Ledolter, J & Swersey, A J 2007, *Testing 1-2-3: experimental design with applications in marketing and service operations,* Stanford Business Books, Stanford, Calif.

Lee, HG & Clark, TH 1996, 'Impacts of the electronic marketplace on transaction cost and market structure', *International Journal of Electronic Commerce*, vol. 1, no.1, pp. 127-149.

Lee, MKO & Turban, E 2001, 'A trust model for consumer internet shopping', *International Journal of Electronic Commerce*, vol. 6, no.1, pp. 75-91.

Lee, S-E & Littrell, MA 2005, 'Global e-tailing: US consumers' intention to shop for cultural products on the Internet', *International Journal of Retail & Distribution Management,* vol. 33, no. 2, pp. 133-147.

Leedy, PD & Ormrod, JE 2005, *Practical research: planning and design*, 8th edn, Prentice Hall, Upper Saddle River, New Jersey.

Lesser, JA & Kamal, P 1991, 'An inductively derived model of the motivation to shop', *Psychology and Marketing*, vol. 8, no.3, pp.177-96.

Levenburg, NM 2005, 'Delivering customer value online: an analysis of practices, applications, and performance', *Journal of Retailing and Consumer services,* vol. 12, pp. 319-331.

Levin, AM, Levin, IP & Heath, CE 2003, 'Product category dependent consumer preferences for online and offline shopping features and their influence on multi-channel retail alliance', *Journal of Electronic Commerce Research*, vol. 4, no. 3, pp. 85-93.

Lichtenstein, DR & Burton, S 1989, 'The Relationship between perceived and objective price-quality', *Journal of Marketing Research*, vol. 26, November, pp. 429-443

Liebermann, Y & Stashevsky, S 2002, 'Perceived risks as barriers to Internet and e-commerce usage', *Qualitative Market Research: an International Journal*, vol. 5, no. 4, pp. 291-300.

Lodish, LM, Abraham, MM, Livelsberger, J, Lubetkin, B, Richardson, B & Stevens, ME 1995, 'A summary of fifty-five in-market experimental estimates of the long-term effect of TV advertising', *Marketing Science*, vol. 14, no. 3, pp. G133-G140.

Lumpkin, GT & Dess, GG 2004, 'E-business strategies and Internet business models: How the Internet adds value', *Organizational Dynamics*, vol. 33, no. 2, pp. 161-173.

Lutz, RJ & Reilly, PJ 1974, 'An exploration of the effects of perceived social and performance risk on consumer information acquisition', *Advances in Consumer Research*, vol. 1, no. 1, pp. 393-405.

Mahmood, MA, Bagchi, K & Ford, TC 2004, 'On-line shopping behaviour: cross-country empirical research', *International Journal of Electronic Commerce*, vol. 9, no. 1, pp. 9-30.

Malone, T & Laubacher, R 1998, 'The dawn of the e-lance economy', *Harvard Business Review*, vol. 76, no. 5, pp. 145-152.

Mankiw, NG 2007, *Principles of microeconomics*, 4th edn, Thomson/South-Western, Mason, Ohio.

Maravilla, N 2002, *Lessons learned from the downfall of dot-coms,* viewed 10 June 2008, <www.devarticles.com/c/a/HTML/Lessons-Learned-From-The-Downfall-Of-Dot-Coms/>.

Margherio, L, Henry, D, Cooke, S & Montes, S 1998, *The emerging digital economy*, downloaded 27 Novenber 2006, <www.esa.doc.gov/Reports/EmergingDig.pdf>.

Marshall, C & Rossman, GB 2006, *Designing qualitative research*, 4th edn, Sage Publications, Inc., Thousand Oaks, California.

Mathews, R 1997, 'Virtual retailing: 'Beantown's battle of the boxes', *Progressive Grocer*, vol. 76, no. 4, pp. 37-40.

Maxwell, SE & Delaney, HD 2004, *Designing experiments and analyzing data: a model comparison perspective,* 2nd edn, Lawrence Erlbaum Associates, Inc., Mahwah, New Jersey.

McDaniel, C & Gates, R, Jr. 2007, *Marketing research*, 7th edn, John Wiley & Sons, Inc. New Jersey.

McDonald, JH 2007, *The Handbook of Biological Statistics*, viewed 15 February 2008, <http://udel.edu/~mcdonald/statpermissions.html>.

McIvor, R, O'Reilly, D & Ponsonby, S 2003, 'The impact of Internet technologies on the airline industry: current strategies and future developments', *Strategic Change*, vol. 12, no.1, pp. 31-47.

Meuter, ML, Ostrom, AL, Roundtree, RI & Bitner, MJ 2000, 'Self-service technologies: understanding customer satisfaction with technology-based service encounters', *Journal of Marketing*, vol. 64, July, pp. 50-64.

Midgley, DF 1983, 'Patterns of Interpersonal Information Seeking for the Purchase of a Symbolic Product', *Journal of Marketing Research*, vol. 20, no. 1, pp. 74-83.

Milgrom, P & Roberts, J 1990, 'The economics of modern manufacturing: technology, strategy, and organization', *The American Economic Review*, vol. 80, no. 3, pp. 511-528.

Milgrom, P & Roberts, J 1995, 'Complementarities and fit strategy, structure, and organizational change in manufacturing', *Journal of Accounting and Economics*, vol. 19, pp. 179-208.

Milgrom, P, Qian, Y & Roberts, J 1991, 'Complementarities, momentum, and the evolution of modern manufacturing', *Path Dependence in Economic*, vol. 81, no. 2, pp. 84-88.

Mockler, RJ, Dologite, DG & Gartenfeld, ME 2006, 'B2B E-Business', in Turban, E, King, D, McKay, J, Marshall, P, Lee, J & Viehland, D 2008, *Electronic commerce 2008: a managerial perspective,* Prentice Hall, Upper Saddle River, New Jersey.

Mohammed, RA, Fisher, RJ, Jaworski, BJ & Paddison, GJ 2004, *Internet marketing: building advantage in a networked economy,* 2nd edn, McGraw-Hill, New York.

Monroe, KB 1990, *Pricing: making profitable decisions*, McGraw-Hill, New York.

Monroe, KB & Krishnan, R 1985, 'The effect of price on subjective product evaluations', in Dodds, WB, Monroe, KB & Grewal, D 1991, 'Effects of price, brand, and store information on buyers' product evaluations', *Journal of Marketing Research*, vol. 28, no. 3, pp. 307-319.

Monsuwe, TP, Dellaert, BGC & Ruyter, K 2004, 'What drives consumers to shop online? A literature review', *International Journal of Service Industry Management*, vol. 15, no.1, pp. 102-121.

Montgomery, DC 2001, *Design and analysis of experiments*, 5th edn, John Wiley & Sons, Inc., New York.

Mulpuru, S, Johnson, C, McGowan, B & Wright, S 2008, *US eCommerce forecast: 2008 to 2012,* viewed 23 May 2008,<www.forrester.com/Research/Document/Excerpt/ 0,7211,41592,00.html>.

Murphy, KR & Myors, B 2003, *Statistical power analysis: a simple and general model for traditional and modern hypothesis tests,* 2nd edn, viewed 7 March 2008, <http://books.google.com.au/books?id=eKulT_7Uv_kC&pg=PA15&lpg=PA15&dq=stati stic+power&source=web&ots=duLogRr5pu&sig=Ub3L8DZ-Y32nX- BtzPAK1bwJixk&hl=en#PPR8,M1>.

Nelmapius, AH, Boshoff, C, Calitz, AP & Klemz, BR 2005, 'The impact of the information search variables, time pressure and involvement, on buying behavior in a three-dimensional hypermedia computer-mediated environment', *Journal of Business Management,* vol. 36, no. 3, pp. 1-13.

Netstarter.com.au 2008, *E-commerce and the travel industry*, viewed 24 May 2008, <www.netstarter.com.au/Content_Common/pg-eCommerce-websites-travel- industry.seo>.

Neuman, WL 2006, *Social research methods: qualitative and quantitative approaches*, 6th edn, Pearson Education, Inc., Boston.

Newsom 2005, *SEM*: *a quick primer on exploratory factor analysis*, viewed 9 March 2008, <www.upa.pdx.edu/IOA/newsom/semclass/ho_efa.doc>.

Nichols, DP 1993, *Testing simple effects in MANOVA,* viewed 19 December 2007, <ftp://ftp.spss.com/pub/spss/statistics/nichols/articles/simple.txt>.

Nicholls, A & Watson, A 2005, 'Implementing e-value strategies in UK retailing', *International Journal of Retail & Distribution Management*, vol. 33, no. 6, pp. 426-443.

Normann, R 1984, *Service management: strategy and leadership in service business*, John Wiley & Sons, New York.

Normann, R 2000, *Service management: strategy and leadership,* 3rd edn, John Wiley and Sons, Chichester, West Sussex, England.

Office of Fair Trading 2000, *OFT study on e-commerce and competition,* viewed 1 June 2008*,* <www.out-law.com/page-954>.

Osborne, JW & Costello, AB 2005, 'Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis', *Practical Assessment, Research & Evaluation,* vol. 10, no. 7, viewed 9 March 2008, <http://pareonline.net/pdf/v10n7a.pdf>.

Otto, JR & Chung, QB 2000, 'A framework for cyber-enhanced retailing: integrating e-commerce retailing with brick-and mortar retailing', *Electronic Markets*, vol. 10, no. 3, pp. 185-191.

Oxenfeldt, A 1966, 'Product line pricing', in Guiltinan, JP 1987, 'The price bundling of services: a normative framework', *Journal of Marketing*, vol. 51, April, pp. 74-85.

Papazoglou, M & Ribbers, P 2006, *Building B2B relationships-technical and tactical and implementations e-strategy*, Wiley & Sons, Hoboken, New Jersey.

Parasuraman, A, Zeithaml, VA & Malhotra, A 2005, 'E-S-QUAL: a multiple-item scale for assessing electronic service quality', *Journal of Service Research,* vol. 7, no. 3, p 213.

Parasuraman, A & Zinkhan, GM 2002, 'Marketing to and serving customers through the Internet: an overview and research agenda', *Journal of the Academic of Marketing Science*, vol. 30, no. 4, pp. 286-295.

Payne,A & Holt, S 2001, 'Diagnosing Customer Value: Integrating the Value Process and Relationship Marketing', *British Journal of Management*, vol. 12, no. 2, pp. 159-182.

Pepers, D & Rogers, M 1997, 'The $15,000 Rug', *Marketing Tools*, May.

Petty, RE, Cacioppo, JT & Schumann, D 1983, 'Central and peripheral routes to advertising effectiveness: the moderating role of involvement', *Journal of Consumer Research,* vol. 10, pp. 135-146.

Peterson, RA 1994, 'A meta-analysis of Cronbach's Coefficient Alpha', *The Journal of Consumer Research*, vol. 21, no. 2, pp. 381-391.

Porter, M 1980, *Competitive advantage*, Harvard Business Press, Boston, MA.

Porter, M 1990, *The competitive advantage of nations,* Free Press, New York.

Porter, M 2001, 'Strategy and the Internet', *Harvard Business Review*, March, pp. 63-78.

Powell, ET & Renner, M 2003, *Analyzing qualitative data*, viewed 24 March 2008, <http://learningstore.uwex.edu/pdf/G3658-12.pdf>.

Price, I 2000, *Two-way ANOVA*, viewed 7 December, 2007, <www.une.edu.au/WebStat/ unit_materials/c7_anova/twoway_anova.htm>.

 Rayport, JF & Sviokla, JJ 1994, 'Managing in the marketspace', *Harvard Business Review,* vol. 72, November – December, pp. 141-150.

Rayport, JF & Sviokla, JJ 1995, 'Exploiting the virtual value chain', *Harvard Business Review,* vol. 73, no. 6, pp. 75-87.

Razi, MA, Tarn, M & Siddiqui, FA 2004, 'Exploring the failure and success of DotComs', *Information Management & Computer Security*, vol. 12, no. 3, pp. 228-244.

Reibstein, DJ 2002, 'What attracts customers to online stores, and what keeps them coming back?', *Journal of the Academy of Marketing Science*, vol. 30, no. 4, pp. 465-473.

Render, B & O'Conner, TS 1976, 'The influence of price, store name and brand name on perceptions of product quality', in Dodds, WB, Monroe, KB & Grewal, D 1991, 'Effects of price, brand, and store information on buyers' product evaluations', *Journal of Marketing Research*, vol. 28, no. 3, pp. 307-319.

Richardson, WTG 2007, *Benefits? limitations of e-business*, viewed 26 May 2008, <www.witiger.com/ecommerce/benefits-limitations.htm>.

Richardson, PS, Dick, AS & Jain, AK 1994, 'Extrinsic and intrinsic effects on perceptions of store brand quality', *Journal of Marketing*, vol. 58, no. 4, pp. 28-36.

Rosen, KT & Howard, AL 2000, 'E-tail: gold rush or fool's gold?', *California Management Review*, vol. 42, no. 3, pp. 72-100.

Rudestam, KE & Newton, RR 2007, *Surviving your dissertation: a comprehensive guide to content and process,* 3rd edn, Sage Publications, Thousand Oaks, California.

Sadeh, NM 2003, 'Advances in B2B e-commerce and e-supply management', *Journal of Organizational Computing and E-Commerce,* vol. 13, no. 3 & 4.

Salisbury, WD, Pearson, RA, Pearson, AW & Miller, DW 2001, 'Perceived security and World Wide Web purchase intention', *Industrial Management & Data Systems*, vol. 101, no. 4, pp. 165-176.

Schechter, L 1984, 'A normative conception of value', *Progressive Grocer*, *Executive report*, pp. 12-14.

Schiffman, LG & Kanuk, LL 1991, *Consumer behaviour*, 4th edn, Prentice Hall, Englewood Cliffs, New Jersey.

Schmalensee, R 1984, 'Gaussian demand and commodity bundling,' *Journal of Business*, vol. 57, January, pp. 211-230.

Scupola, A 1999, 'The impact of electronic commerce on the publishing industry: towards a business value complementarity framework of electronic publishing', *Journal of Information Science*, vol. 25, no. 2, pp. 133-145.

Seiders, K, Berry, LL & Gresham, LG 2000, 'Attention retailers! How convenient is your convenience strategy?', *Sloan Management Review*, vol. 41, no, 3, pp. 79-89.

Sekaran, U 2003, *Research methods for business*: *A skill-building approach*, 4th edn, John Wiley & Sons, Inc., New York.

Shin, N 2001, 'Strategies for competitive advantage in electronic commerce', *Journal of Electronic Commerce Research*, vol. 2, no. 4, pp. 164-171.

Simons, LPA, Steinfield, C & Bouwman, H 2002, 'Strategic positioning of the Web in a multi- channel market approach', *Internet Research: Electronic Networking Applications and Policy*, vol. 12, no. 4, pp. 339-347.

Simpson, L & Lakner, HB 1993, 'Perceived risk and mail order shopping for apparel', *Journal of Consumer Studies and Home Economics*, vol. 17, no. 4, pp. 377-389.

Soh, C, Mah, QY, Gan, FJ, Chew, D & Reid, E 1997, 'The use of the Internet for business: the experience of early adopters in Singapore', *Internet Research: Electronic Networking Applications and Policy,* vol. 7, no. 3, pp. 217-228.

Spiller, PT & Zelner, BA 1997, 'Product complementarities, capabilities and governance: a dynamic transaction cost perspective', *Ind Corp Change,* vol. 6, no. 3, pp. 561-594.

Srinivasan, SS, Anderson, R & Ponnavolu, K 2002, 'Customer loyalty in e-commerce: an exploration of its antecedents and consequences', *Journal of Retailing*, vol. 78, pp. 41-50.

Standing, C & Vasudavan, T 1999, 'Internet marketing strategies used by travel agencies in Australia', *Journal of Vacation Marketing*, vol. 6, no. 1, pp. 21-32.

Steinfield, C, Mahler, A & Bauer, J 1999, 'Electronic commerce and the local merchant: opportunities for synergy between physical and Web presence', *Electronic Markets*, vol. 9, no.1/2, pp. 51-57.

Steinfield, C, Bouwman, H & Adelaar, T 2002, 'The dynamics of click-and-mortar electronic commerce: opportunities and management strategies', *International Journal of Electronic Commerce,* vol. 7, no. 1, pp.93-119.

Stern, LW & Ansary, AI 1992, *Marketing Channels*, 4th edn, Prentice-Hall, Englewood Cliffs, New Jersey.

Stone, RN & Gronhaug, K 1993, 'Perceived risk: further considerations for the marketing discipline', *European Journal of Marketing,* vol. 27, no. 3, pp. 39-50.

Strader, TJ & Shaw, MJ 1999, 'Consumer cost differences for traditional and Internet markets', *Internet Research*, vol. 9, no. 2, pp. 82-92.

Straub, D, Boudreau, M & Gefen, D 2004, 'Validation guidelines for IS positivist research', *Communications of the Association for Information Systems*, vol. 13, pp. 380-427.

Stremersch, S & Tellis, GJ 2002, 'Strategic bundling of products and prices: a new synthesis for marketing', *Journal of Marketing*, vol. 66, January, pp. 55-72.

SupplyChainManagement101.com 2005, viewed 30 May 2008, <http://supplychain management101.com/>

Surjadjaja, H, Ghosh, S & Antony, J 2003, 'Determining and assessing the determinants of e-service operations', *Managing Service Quality*, vol.13, no.1, pp. 39-53.

Sweeney, JC & Soutar, GN 2001, 'Consumer perceived value: the development of a multiple item scale', *Journal of Retailing,* vol. 77, pp. 203-220.

Sweeney, S, MacLellan, A & Dorey, E 2006, *3G marketing on the Internet: Third generation Internet marketing strategies for online success*, 7th edn, Maximum Press, Gulf Breeze, Florida.

Teas, RK & Agarwal, S 2000, 'The effect of extrinsic product cues on consumers' perceptions of quality, sacrifice, and value', *Journal of the Academy of Marketing Science*, vol. 28, no. 2, pp. 278-290.

Tellis, GJ 1986, 'Beyond the many faces of price: an integration of pricing strategies', *Journal of Marketing*, vol. 50, no. 4, pp. 146-160.

Telser, LG 1979, 'A theory of monopoly of complementary goods', *Journal of Business*, vol. 52, no. 2, pp. 211-30.

Timmers, P 1998, 'Business models for electronic markets', *Electronic Markets*, vol. 8, no. 2, pp. 3-8.

Torkzadeh, G & Dhillon, G 2002, 'Measuring factors that influence the success of Internet commerce', *Information Systems Research*, vol. 13, no. 2, pp. 187-204.

Touliatos, J & Compton, N 1988, *Research methods in human ecology/home economics*, Iowa State University Press, Ames, Iowa.

Treacy, M & Wiersema, F 1993, 'Customer intimacy and other value disciplines', *Harvard Business Review,* January - February, pp. 84-93.

Turban, E, King, D, McKay, J, Marshall, P, Lee, J & Viehland, D 2008, *Electronic commerce 2008: a managerial perspective,* Prentice Hall, Upper Saddle River, New Jersey.

Varadarajan, PR 1985, 'Joint sales promotion: an emerging marketing tool', *Business Horizons*, vol. 28, no. 5, pp. 43-49.

Visa-asia.com 2005, *Online shopping booms,* viewed 23 May 2008, <www.visa-asia.com/ap/au/mediacenter/pressrelease/NR_Sydney_270405_onlineshoppingbooms.shtml>.

Walsh, J & Godfrey, S 2000, 'The Internet: a new era in customer service', *European Management Journal*, vol. 18, no. 1, pp. 85-92.

Walters, D & Lancaster, G 1999, 'Value and information-concepts and issues for management', *Management Decision,* vol. 37, no. 8, pp. 643-656.

Walters, RG 1991, 'Assessing the impact of retail price promotions on product substitution, complementary purchase', *Journal of Marketing*, vol. 55, April, pp. 17-28.

Ward, MR 2001, 'Will online shopping compete more with traditional retailing or catalog shopping?' Viewed 15 April 2008, <http://citeseer.ist.psu.edu/322701.html>.

Weber, K & Roehl, WS 1999, 'Profiling people searching for and purchasing travel production the World Wide Web', *Journal of Travel Research*, vol. 37, February, pp. 291-298.

Wilkinson, JB, Wason, JB & Paksoy, CH 1982, 'Assessing the impact of short-term supermarket strategy variables', *Journal of Marketing Research,* vol. 19, no. 1, pp. 72-86.

Williamson, OE 1975, *Markets and hierarchies, analysis and anti-trust implications: a study in the economics of internal organization*. Free Press, New York.

Williamson, OE 1987, *The economic institution of capitalism*, Free Press, New York.

Winner, BJ, Brown, DR & Michels, KM 1991, *Statistical principles in experimental design,* 3rd edn, McGraw-Hill, New York.

Woodall, T 2003, 'Conceptualising 'value for the customer': an attributional, structural and dispositional analysis', *Academy of Marketing Science Review*, no. 12, viewed 15 March 2005, <www.amsreview.org/articles/woodall12-2003.pdf.>.

Woodruff, RB 1997, 'Customer value: the next source for competitive advantage', *Journal of the Academy of Marketing Science*, vol. 25, no. 2, pp. 139-153.

Wright, C 2001, 'Make a bundle with bundling (Part 2)', *Rating Matters,* vol. 4, viewed 19 May 2008, <www.servicelevel.com/rating_matters/newsletters/issue04.htm>.

Wuensch, KL 2007, *Skewness, Kurtosis, and the Normal Curve[©]*, viewed 10 January 2008, <http://core.ecu.edu/psyc/wuenschk/docs30/Skew-Kurt.doc>.

Wyner, GA 2001, 'The customer-value gap', *Marketing Management,* Spring, vol. 10, no. 1, pp. 4-5.

Yakhlef, A 1998, 'The Internet as a new locus for value creation', *Management Decision*, vol. 36, no. 9, pg. 610.

Yavas, U 1994, 'Research note: students as subjects in advertising and marketing research', *International Marketing Review*, vol. 11, no. 4, pp. 35-43.

Zeithaml, VA 1988, 'Consumer perceptions of price, quality and value: a means-end model and synthesis of evidence', *Journal of Marketing,* vol. 52, July, pp.2-22.

Zeithaml, VA, Berry, LL & Parasuraman, A 1996, 'The behavioral consequences of service quality', *Journal of Marketing*, vol. 60, no. 2, pp. 31-46.

Zeithaml, VA, Parasuraman, A & Malhotra, A 2000, 'A conceptual framework for understanding e-service quality: implications for future research and managerial practice', in Burke, RR 2002, 'Technology and the customer interface: what consumers want in the physical and virtual store. *Academy of Marketing Science Journal,* vol. 30, no. 4, pp. 411-432.

Zeithaml, VA 2002, 'Service excellence in electronic channels', *Managing Service Quality*, vol. 12, no. 3, pp. 135-138.

Zott, C, Amit, R & Donlevy, J 2000, 'Strategies for value creation in e-commerce: best practice in Europe', *European Management Journal*, vol. 18, no. 5, pp. 463-475.

Zhu, K 2004, 'The complementarity of information technology infrastructure and e-commerce capability: a resource-based assessment of their business value', *Journal of Management Information Systems*, vol. 21, no. 1, pp. 167-202.

Zhu, K & Kraemer, KL 2002, 'e-Commerce metrics for net-enhanced organizations: assessing the value of e-commerce to firm performance in the manufacturing sector', *Information Systems Research*, vol. 13, no. 3, pp. 275-295.

Appendix A – Description of Multi-Item Indicators Used in Experiment One

Perceived Value Indicators

The following perceived value items were rated on (1) = 'Strongly Disagree' and (7) = 'Strongly Agree'.

1. The mix of product and service categories (<u>in Part I</u>) offered by this online travel agency is convenient for my one-stop shopping travel needs.

2. The range of products and services (<u>in Part I</u>) offered by this online travel agency is convenient for me to choose and purchase from.

3. The online self-service facilities (<u>in Part II</u>) provided by this online travel agency are convenient for booking and purchasing my airline tickets.

4. The customer support facilities (<u>in Part III</u>) provided by this online travel agency are convenient for me to get services support (such as planning trips, paying for booking, and/or changing booking).

5. Overall, shopping from this online travel agency saves a lot of my time and effort in acquiring products and services for my trip.

6. Considering time and effort involved, this online travel agency provides valuable products and services for my trip.

Usage Intention Indicators

The following behavioural intention items were rated on (1) = 'Highly Unlikely' and (7) = 'Highly Likely'.

1. The probability that I would consider using an online travel service similar to this one is

2. My intention to use an online travel service similar to this one is

3. The likelihood of using an online travel service similar to this one is

Appendix B – Manipulation Check Questionnaires

Appendix B.1 Manipulation Check Questionnaire for the **High Level** Of Products Or Services Offering

Survey of Online Travel Services

This test is a study of complementary products and services offered by online travel agencies. It is a part of a PhD program. This test will take you about 5 minutes to complete.

We are asking you to rate your perception about products and services offered together with airline tickets. There are no right or wrong answers. We are just interested in your perceptions. Your responses to this test are important.

Your help is greatly appreciated. If you have any questions and/or suggestions, please feel free to contact:

<div align="center">

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</div>

<h1 style="text-align:center">Survey of Online Travel Services</h1>

Instructions

The following are products and/or services offered by an online travel agency. Please circle the number that responds to the following questions.

A. The following are a mix <u>product and service categories</u> offered together with the flights (airline tickets). They may include a number of products/services within the category.

| Home | Flights | Hotels | Cars | Rail | Cruises | Ferry | Package Deal | Travel Insurance |

| Holidays | Destinations | Activities | Restaurants | Entertainment | Travel Guide |

- How would you rate the **range** of these <u>product and service categories</u> offered by this online travel agency?

Very Small Range		Medium Range			Very Large Range	
1	2	3	4	5	6	7

B. The following are <u>online self-service facilities</u> provided for booking and purchasing airline tickets:

- Search & select for the flights online (Date/Destinations/Airlines/Prices)
- Book online
- Pay online
- Receive tickets online (electronic ticketing)
- View booking online
- Request for change booking online

- How would you rate the **level** of these <u>online self-service facilities</u> provided by this online travel agency?

Very Limited		Average			Very Wide	
1	2	3	4	5	6	7

C. The following are <u>offline support facilities</u> provided in addition to the online services:

- **Phone contact**   : Available
- **Travel agency retail stores**   : Available

- How would you rate the **level** of these <u>offline support facilities</u> provided by this online travel agency?

Very Limited		Average			Very Wide	
1	2	3	4	5	6	7

D. Please indicate the level of *relatedness* of these products/services to the airline tickets by circling the number that reflects your perception about these products/services.

Note: Related products and services are those that are **closely associated** with the airline tickets offered.

- How would you rate the **relatedness** of these products/services offered together with the Airline tickets?

	Not at all Related		Somewhat Related			Highly Related	
Hotels	1	2	3	4	5	6	7
Car Hire	1	2	3	4	5	6	7
Rail/Trains (e.g., Eurail Global Pass)	1	2	3	4	5	6	7
Cruises	1	2	3	4	5	6	7
Working holiday (e.g., Work Overseas, Study Abroad, Learn a Language, Volunteer programs)	1	2	3	4	5	6	7
Deals (e.g., Flights, Hotels, Car hire or Holidays)	1	2	3	4	5	6	7
Travel insurance	1	2	3	4	5	6	7
Holidays (e.g., Beach, City, Family, Luxury, Honeymoon, Outback, Short Break, Weekends Away, Adventures, Backpacking)	1	2	3	4	5	6	7
Entertainment (e.g., Concert & Shows, Unique Dining, Day Out)	1	2	3	4	5	6	7
Specialist (e.g., Group travel, Business Travel, and Holidays & Volunteering)	1	2	3	4	5	6	7
Travel Guide (e.g., Travel Advice, Online Visa, World Weather, Currency, Airports Information, Medical Advice)	1	2	3	4	5	6	7
Destinations (e.g., Africa, Asia, Europe, Pacific, USA & Canada, Safari/Trekking, Surf/Dive, Urban/City, Countryside, Snow, Beach)	1	2	3	4	5	6	7
Credit Card Services (such as obtaining a credit card via the Internet)	1	2	3	4	5	6	7

	Not at all Related		Somewhat Related			Highly Related	
Money Services (e.g., Loan, Car Insurance, Home Insurance, Life Assurance)	1	2	3	4	5	6	7
Gifts & Travel Shop (e.g., Chocolate, Flowers, CDs & DVDs, Books & Map, , Bottle Shop Luggage & Storage, Electronics & Travel Tools, Camping & Outdoors, Security)	1	2	3	4	5	6	7
Activities (e.g., Skiing, Hot-Air Balloon, Horse Riding)	1	2	3	4	5	6	7
Gambling (e.g., Casino & Poker, Lotto Tickets, Sports Betting, Bingo)	1	2	3	4	5	6	7
Restaurants (e.g., Top 10 dinner offers, Fine dining, Top Tourist dining, Dinner & Show, Regional specials, Get a takeaway)	1	2	3	4	5	6	7
Auctions (e.g., Hotels, Luxury breaks, Short breaks, Holidays, Gifts & shopping, Art gallery)	1	2	3	4	5	6	7

E. Please tick the following items that best describe you.

1. Your gender: ☐ (1) Female ☐ (2) Male

2. Your age: ☐ (1) 18 -25 ☐ (2) 26-35 ☐ (3) 36-45

   ☐ (4) 46-55 ☐ (5) 56-65 ☐ (6) Over 65

3. Have you ever purchased airline tickets from the Internet?

   ☐ (1) Yes ☐ (2) No

4. Have you ever purchased any other products (e.g., books, CDs, computers) from the Internet?

   ☐ (1) Yes ☐ (2) No

Thank You for Your Time and Cooperation.

Appendix B.2 Manipulation Check Questionnaire for the **Low Level** Of Products Or
Services Offering

Survey of Online Travel Services

This test is a study of complementary products and services offered by online travel services. It is a part of a PhD program. This test will take you about 5 minutes to complete.

We are asking you to rate your perception about products and services offered together with airline tickets. There are no right or wrong answers. We are just interested in your perceptions. Your responses to this test are important.

Your help is greatly appreciated. If you have any questions and/or suggestions, please feel free to contact:

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Survey of Online Travel Services

Instructions

The following are products and/or services offered by online travel agencies. Please circle the number that responds to the following questions.

A. The following are <u>product and service categories</u> offered together with the flights (airline tickets). They may include a number of products/services within the category.

| Home | Flights | Hotels | Cars | Travel Insurance | Travel Guide |

- How would you rate the **range** of <u>product and service categories</u> offered?

Very Small Range		Medium Range		Very Large Range	
1	2	3	4	5	6	7

B. The following are <u>online self-service facilities</u> provided for booking and purchasing airline tickets:

> - Search & select for the flights online (Date/Destinations/Airlines/Prices)
> - Submit online enquiry for booking
>   (The travel agent will contact you with available seats and payment methods)
>   (**No** online payment facility)
>   (**No** online ticket delivery facility)
>   (**No** online viewing booking facility)
>   (**No** online changing booking facility)

- How would you rate the **level** of <u>online self-service facilities</u> provided?

Very Limited		Average		Very Wide	
1	2	3	4	5	6	7

C. The following are <u>offline support facilities</u> provided to the online services:

> - **Phone contact** : Available
> - **Travel agency retail stores** : **Not** Available

- How would you rate the **level** of <u>offline support facilities</u> provided?

Very Limited		Average		Very Wide	
1	2	3	4	5	6	7

D. Please indicate the level of *relatedness* of these products/services to the airline tickets
   by circling the number that reflects your perception about these products/services.

Note: Related products and services are those that are **closely associated** with the airline tickets offered.

- How would you rate the **relatedness** of these products/services offered together with the Airline tickets?

	Not at all Related		Somewhat Related			Highly Related	
Hotels	1	2	3	4	5	6	7
Car Hire	1	2	3	4	5	6	7
Rail/Trains (e.g., Eurail Global Pass)	1	2	3	4	5	6	7
Cruises	1	2	3	4	5	6	7
Working holiday (e.g., Work Overseas, Study Abroad, Learn a Language, Volunteer programs)	1	2	3	4	5	6	7
Deals (e.g., Flights, Hotels, Car hire or Holidays)	1	2	3	4	5	6	7
Travel insurance	1	2	3	4	5	6	7
Holidays (e.g., Beach, City, Family, Luxury, Honeymoon, Outback, Short Break, Weekends Away, Adventures, Backpacking)	1	2	3	4	5	6	7
Entertainment (e.g., Concert & Shows, Unique Dining, Day Out)	1	2	3	4	5	6	7
Specialist (e.g., Group travel, Business Travel, and Holidays & Volunteering)	1	2	3	4	5	6	7
Travel Guide (e.g., Travel Advice, Online Visa, World Weather, Currency, Airports Information, Medical Advice)	1	2	3	4	5	6	7
Destinations (e.g., Africa, Asia, Europe, Pacific, USA & Canada, Safari/Trekking, Surf/Dive, Urban/City, Countryside, Snow, Beach)	1	2	3	4	5	6	7
Credit Card Services (such as obtaining a credit card via the Internet)	1	2	3	4	5	6	7

	Not at all Related		Somewhat Related			Highly Related	

Money Services
(e.g., Loan, Car Insurance, Home Insurance,
Life Assurance)   1   2   3   4   5   6   7

Gifts & Travel Shop
(e.g., Chocolate, Flowers, CDs & DVDs,
Books & Map, , Bottle Shop Luggage & Storage,
Electronics & Travel Tools, Camping & Outdoors,
Security)   1   2   3   4   5   6   7

Activities
(e.g., Skiing, Hot-Air Balloon, Horse Riding)   1   2   3   4   5   6   7

Gambling
(e.g., Casino & Poker, Lotto Tickets,
Sports Betting, Bingo)   1   2   3   4   5   6   7

Restaurants
(e.g., Top 10 dinner offers, Fine dining,
Top Tourist dining, Dinner & Show,
Regional specials, Get a takeaway)   1   2   3   4   5   6   7

Auctions
(e.g., Hotels, Luxury breaks, Short breaks,
Holidays, Gifts & shopping, Art gallery)   1   2   3   4   5   6   7

E. Please tick the following items that best describe you.

1. Your gender: ☐ (1) Female   ☐ (2) Male

2. Your age: ☐ (1) 18 -25   ☐ (2) 26-35   ☐ (3) 36-45

☐ (4) 46-55   ☐ (5) 56-65   ☐ (6) Over 65

3. Have you ever purchased airline tickets from the Internet?

☐ (1) Yes   ☐ (2) No

4. Have you ever purchased any other products (e.g., books, CDs, computers) from the Internet?

☐ (1) Yes   ☐ (2) No

Thank You for Your Time and Cooperation.

Appendix C - Sixteen Paper-Based Websites Used in Experiment One

Hypothetical Online Travel Agency #1

<u>**Part I**</u> **Products and services offered:**

| Flights | Hotels | Car Hire | Rail | Deals | Travel Insurance | Destinations | Holidays |

| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

<u>**Part II**</u> **Online self-service facilities for booking & purchasing airline tickets:**
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

<u>**Part III**</u> **Customer support facilities:**
- Travel agency retail stores/branches   : Available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #2

<u>**Part I**</u> **Products and services offered:**

| Flights | Hotels | Car Hire | Rail | Deals | Travel Insurance | Destinations | Holidays |

| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

<u>**Part II**</u> **Online self-service facilities for booking & purchasing airline tickets:**
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

<u>**Part III**</u> **Customer support facilities:**
- **Travel agency retail stores/branches**   : **Not** available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #3

Part I   Products and services offered:

| **Flights** | **Hotels** | **Car Hire** | **Travel Insurance** | **Holidays** | **Deals** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II   Online self-service facilities for booking & purchasing airline tickets:

- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

Part III   Customer support facilities:

- Travel agency retail stores/branches   : Available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #4

Part I   Products and services offered:

| **Flights** | **Hotels** | **Car Hire** | **Travel Insurance** | **Holidays** | **Deals** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II   Online self-service facilities for booking & purchasing airline tickets:

- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

Part III   Customer support facilities:

- **Travel agency retail stores/branches**   : **Not** available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #5

| **Part I** Products and services offered:

| **Flights** | **Hotels** | **Car Hire** | **Cruises** | **Rail** | **Specialist** | **Working Holidays** | **Travel Shop**

| **Gift Ideas** | **Credit Card** | **Money Services** | **Gambling** | **Auctions** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II Online self-service facilities for booking & purchasing airline tickets:
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

Part III   Customer support facilities:
- Travel agency retail stores/branches   : Available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #6

| **Part I** Products and services offered:

| **Flights** | **Hotels** | **Car Hire** | **Cruises** | **Rail** | **Specialist** | **Working Holidays** | **Travel Shop**

| **Gift Ideas** | **Credit Card** | **Money Services** | **Gambling** | **Auctions** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II Online self-service facilities for booking & purchasing airline tickets:
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

Part III   Customer support facilities:
- **Travel agency retail stores/branches**   : **Not** available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #7

Part I   Products and services offered:

| **Flights | Hotels | Car Hire | Travel Shop | Money Services | Gambling |**

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II Online self-service facilities for booking & purchasing airline tickets:
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

Part III   Customer support facilities:
- Travel agency retail stores/branches   : Available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #8

Part I   Products and services offered:

| **Flights | Hotels | Car Hire | Travel Shop | Money Services | Gambling |**

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II Online self-service facilities for booking & purchasing airline tickets:
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

Part III   Customer support facilities:
- **Travel agency retail stores/branches** : **Not** available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #9

Part I **Products and services offered:**

| **Flights** | **Hotels** | **Car Hire** | **Rail** | **Deals** | **Travel Insurance** | **Destinations** | **Holidays** |

| **Activities** | **Restaurants** | **Entertainment** | **Credit Card** | **Travel Guide** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II **Online self-service facilities for booking & purchasing airline tickets:**
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : Available
- Online ticket delivery   : Available
- Online viewing booking   : Available
- Request for changing booking online   : Available

Part III **Customer support facilities:**
- Travel agency retail stores/branches   : Available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #10

Part I **Products and services offered:**

| **Flights** | **Hotels** | **Car Hire** | **Rail** | **Deals** | **Travel Insurance** | **Destinations** | **Holidays** |

| **Activities** | **Restaurants** | **Entertainment** | **Credit Card** | **Travel Guide** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II **Online self-service facilities for booking & purchasing airline tickets:**
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : Available
- Online ticket delivery   : Available
- Online viewing booking   : Available
- Request for changing booking online   : Available

Part III **Customer support facilities:**
- **Travel agency retail stores/branches**   : **Not** available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #11

Part I Products and services offered:

| Flights | Hotels | Car Hire | Travel Insurance | Holidays | Deals |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II Online self-service facilities for booking & purchasing airline tickets:
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : Available
- Online ticket delivery   : Available
- Online viewing booking   : Available
- Request for changing booking online   : Available

Part III Customer support facilities:
- **Travel agency retail stores/branches** : **A**vailable
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #12

Part I Products and services offered:

| Flights | Hotels | Car Hire | Travel Insurance | Holidays | Deals |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II Online self-service facilities for booking & purchasing airline tickets:
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : Available
- Online ticket delivery   : Available
- Online viewing booking   : Available
- Request for changing booking online   : Available

Part III Customer support facilities:
- **Travel agency retail stores/branches** : **Not** available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #13

| **Part I Products and services offered:**

| **Flights** | **Hotels** | **Car Hire** | **Cruises** | **Rail** | **Specialist** | **Working Holidays** | **Travel Shop**

| **Gift Ideas** | **Credit Card** | **Money Services** | **Gambling** | **Auctions** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II Online self-service facilities for booking & purchasing airline tickets:
- Search & select for flights online
  (Date/Destinations/Airlines/Prices) : Available
- Online booking   : Available
- Online payment   : Available
- Online ticket delivery   : Available
- Online viewing booking   : Available
- Request for changing booking online   : Available

Part III   Customer support facilities:
- Travel agency retail stores/branches : Available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #14

Part I Products and services offered:

| **Flights** | **Hotels** | **Car Hire** | **Cruises** | **Rail** | **Specialist** | **Working Holidays** | **Travel Shop**

| **Gift Ideas** | **Credit Card** | **Money Services** | **Gambling** | **Auctions** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II Online self-service facilities for booking & purchasing airline tickets:
- Search & select for flights online
  (Date/Destinations/Airlines/Prices) : Available
- Online booking   : Available
- Online payment   : Available
- Online ticket delivery   : Available
- Online viewing booking   : Available
- Request for changing booking online   : Available

Part III   Customer support facilities:
- **Travel agency retail stores/branches** : **Not** available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #15

Part I **Products and services offered:**

| **Flights** | **Hotels** | **Car Hire** | **Travel Shop** | **Money Services** | **Gambling** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II **Online self-service facilities for booking & purchasing airline tickets:**
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : Available
- Online ticket delivery   : Available
- Online viewing booking   : Available
- Request for changing booking online   : Available

Part III **Customer support facilities:**
- Travel agency retail stores/branches   : Available
- Online help & Email   : Available
- Call centre   : Available

Hypothetical Online Travel Agency #16

Part I **Products and services offered:**

| **Flights** | **Hotels** | **Car Hire** | **Travel Shop** | **Money Services** | **Gambling** |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II **Online self-service facilities for booking & purchasing airline tickets:**
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : Available
- Online ticket delivery   : Available
- Online viewing booking   : Available
- Request for changing booking online   : Available

Part III **Customer support facilities:**
- **Travel agency retail stores/branches**   : **Not** available
- Online help & Email   : Available
- Call centre   : Available

Online Travel Services Survey

This survey is a study on the marketing of products and services offered over the Internet. It is a part of a PhD program. This survey will take you approximately 20 minutes to complete.

If you have purchased airline tickets over the Internet, you are invited to participate in this survey.

There are two sections to this survey. In section one, we are asking you to rate your perception about products and/or services offered by a hypothetical online travel agency. In section two, we are asking you about your experience in online shopping and some basic background information. Please note that there is no right or wrong answer to the questions in this survey.

Your responses to this survey are **completely anonymous**.

Your help is greatly appreciated. If you have any questions regarding this project please contact either myself, Naruemon Choochinprakarn, on Tel: (03) 9499 7245, email: s3092281@student.rmit.edu.au ; or my supervisors, Professor Brian Corbitt, Tel: (03) 9925 5808, email: brian.corbitt@rmit.edu.au and Dr Konrad Peszynski, Tel: (03) 9925 1654, Email: konrad.peszynski@rmit.edu.au.

Online Travel Services Survey
Section I

In this section, **you are to assume that you have a vacation plan** and you are looking for **airline tickets and associated travel products and services for your vacation from travel websites**. You will be presented with a hypothetical online travel agency that offers you products/services that facilities for your travel needs. These offerings comprise of *three* parts.

In **Part I**, you will specifically be provided with **a mix of product and service categories** offered together with airline tickets, such as hotels and car hire. They may include a number of products/services within the category as shown in the Appendix attached at the end of this questionnaire.

In **Part II**, you will be provided with **online self-service facilities** for booking and purchasing airline tickets. These facilities range from online searching, booking, paying, ticketing, viewing and changing bookings.

Finally, in **Part III**, you will be provided with **customer support facilities** including online help, call centre, and/or travel agency retail stores/branch. These facilities are provided in order to assist with planning trips, making reservations, paying for booking, receiving tickets, and/or changing booking.

The following hypothetical travel website is an example of the products and services available for your journey. **Please take the time to review the offerings and read through the Appendix carefully before answering the following questions**. Please note that there is no right or wrong answer to the questions in this survey. We are only interested in your evaluation of the online travel services.

Hypothetical Online Travel Agency #1

Part I Products and services offered:
| Flights | Hotels | Car Hire| Rail | Deals | Travel Insurance | Destinations | Holidays |
| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

(Please take the time to read through the **Appendix** attached at the end of this questionnaire to get to know more about products and services offered)

Part II Online self-service facilities for booking & purchasing airline tickets:
- Search & select for flights online
  (Date/Destinations/Airlines/Prices)   : Available
- Online booking   : Available
- Online payment   : **Not** available
- Online ticket delivery   : **Not** available
- Online viewing booking   : **Not** available
- Request for changing booking online   : **Not** available

Part III Customer support facilities:
- Travel agency retail stores/branches   : Available
- Online help & Email   : Available
- Call centre   : Available

Based on the products and services provided by this hypothetical online travel agency:
A. Please circle the number that reflects your level of agreement with the following statements.

	Strongly Disagree	Neutral		Strongly Agree

1. The **mix** of product and service categories (<u>in Part I</u>) offered by this online travel agency is **convenient for my one-stop shopping** travel needs.   1 2 3 4 5 6 7

2. The **range** of products and services (<u>in Part I</u>) offered by this online travel agency is **convenient for me to choose and purchase** from.   1 2 3 4 5 6 7

3. The **online self-service** facilities (<u>in Part II</u>) provided by this online travel agency are **convenient for booking and purchasing** my airline tickets.   1 2 3 4 5 6 7

4. The **customer support** facilities (<u>in Part III</u>) provided by this online travel agency are **convenient for me to get services support** (such as planning trips, paying for booking, and/or changing booking).   1 2 3 4 5 6 7

5. Overall, shopping from this online travel agency **saves a lot of my time and effort** in acquiring products and services for my trip.   1 2 3 4 5 6 7

6. Considering time and effort involved, this online travel agency **provides valuable products** and services for my trip.   1 2 3 4 5 6 7

B. Please circle the number that reflects your assessment of the following statements.

	Very Low			Very High

7. The probability that I would consider using an online travel service similar to this one is   1 2 3 4 5 6 7

8. My intention to use an online travel service similar to this one is   1 2 3 4 5 6 7

9. The likelihood of using an online travel service similar to this one is   1 2 3 4 5 6 7

Online Travel Services Survey

Section II

In this section, you will be asked to respond to the statements or questions based on **your Internet experiences** as follows.

A. Internet Shopping Motive
To what extend do you agree or disagree with the following statements?

	Strongly Disagree	Neutral	Strongly Agree

1. I enjoy Internet shopping for its own sake, not just for the travel items I may purchase.   1 2 3 4 5 6 7

2. While shopping for travel products on the Internet, I try to find just the items I am looking for.   1 2 3 4 5 6 7

3. Shopping for travel products on the Internet is fun.   1 2 3 4 5 6 7
4. I try to accomplish only what I want to when shopping for travel products on the Internet.   1 2 3 4 5 6 7

B. Beliefs about Risk in Internet Shopping
To what extend do you agree or disagree with the following statements?

	Strongly Disagree	Neutral	Strongly Agree

1. There is a chance that if I purchase travel products or services (such as airline tickets, hotels, insurance, etc.) from the Internet, the products may not be worth the money I paid.   1 2 3 4 5 6 7

2. There is a chance that if I purchase travel products or services from the Internet there may be something wrong with the products or that they may not meet my needs, desires, or expectations very well.   1 2 3 4 5 6 7

3. There is a chance that if I purchase travel products or services from the Internet there may be the difficulty of navigation, submitting the order, potential delays receiving products, or changing products.   1 2 3 4 5 6 7

4. There is a chance that if I purchase travel products or services from the Internet my information (e.g. credit card number, personal details) sent over the Internet may be accessed or shared without my knowledge.   1 2 3 4 5 6 7

C. Please answer the following questions that respond to your Internet shopping experience.

1. How long have you been using the Internet for purchasing airline tickets?

    ☐ Less than six months   ☐ Six months to one year

    ☐ One to two years   ☐ More than two years

2. How many times have you purchased airline tickets from the Internet?

    ☐ Less than 2   ☐ 2 - 4   ☐ 5 - 7

    ☐ 8 - 10   ☐ More than 10

3. Besides airline tickets, have you ever purchased or used other products or services provided by travel websites (for examples, hotels, trains, travel insurance, entertainment, CDs, DVDs & Books, money services)?

    ☐ Yes (Please go to question 4)   ☐ No (please go to part D)

4. Please tick the followings **products/services that you have purchased or used from travel websites** (tick all that apply)

    ☐ Hotels

    ☐ Car hire

    ☐ Cruises

    ☐ Travel insurance

    ☐ Credit Card Services (such as obtaining a credit card via the Internet)

    ☐ Gifts & Shopping (e.g., CDs, DVDs, Books & Map, Luggage & Storage, Camping)

    ☐ Package Deal (e.g., Flight + Hotel or Flight + Hotel + Car)

    ☐ Money Services (e.g., Loan, Car Insurance, Home Insurance, Life Assurance)

    ☐ Holidays (e.g., Beach, City, Family, Weekends Away, Adventures, Backpacking)

    ☐ Entertainment (e.g., Concert & Shows, Unique Dining, Day Out)

    ☐ Travel Guides (e.g., Travel Advice, Online Visa, World Weather, Currency)

    ☐ Destinations (e.g., Africa, Asia, Europe, Pacific, USA & Canada, Safari/Trekking)

    ☐ Activities (e.g., Wine Tour, Hot-Air Balloon, Horse Riding)

    ☐ Gambling (e.g., Casino & Poker, Lotto Tickets, Sports Betting, Bingo)

    ☐ Auctions (e.g., for Hotels, Holiday, Gifts & shopping, Art gallery)

    ☐ Others (please specify) ……………………………………………

D. Please tick the following items that best describe your demographic details (this information is used for classification purposes only).

1. Your gender: ☐ Female   ☐ Male

2. Your age: ☐ 18 -25   ☐ 26-35   ☐ 36-45
                      ☐ 46-55   ☐ Over 55

3. Your occupation category:

   ☐ Management   ☐ Professional   ☐ Educator/student
   ☐ Computer related   ☐ Others (please specify) ……………………..

4. Please indicate your annual household income (in Australian dollars):

   ☐ Less than 15,000   ☐ 15,000 – 24,999   ☐ 25,000 – 34,999
   ☐ 35,000 – 49,999   ☐ 50,000 – 74,999   ☐ 75,000 – 99,999
   ☐ Over 100,000

Thank you for your time and cooperation.

Appendix E – Appendix Attached at the End of the Questionnaire in Experiment One

Appendix E.1 Product/Service Information Attached at the End of Paper-Based Website #1, 2, 9 & 10

Hypothetical Online Travel Agency XYZ

| **Flights** | Hotels | Car Hire | Rail | Deals | Travel Insurance | Destinations | Holidays |

| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

Flights
Search Flights
Top Deals
Low fare Alert
Last Minute Packages

| Flights | **Hotels** | Car Hire | Rail | Deals | Travel Insurance | Destinations | Holidays |

| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

Hotels
Search Hotels
Top Deals
Trip Ideals
Popular Cities

| Flights | Hotels | **Car Hire** | Rail | Deals | Travel Insurance | Destinations | Holidays |

| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

Cars
Search cars
Top Deals
Popular Car Destinations

| Flights | Hotels | Car Hire | **Rail** | Deals | Travel Insurance | Destinations | Holidays |

| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

Rail
Search Rail
Top Deals
Popular Passes

Hypothetical Online Travel Agency XYZ

| Flights | Hotels | Car Hire | Rail | **Deals** | Travel Insurance | Destinations | Holidays |

| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

Deals
Flights
Hotels
Flight + Hotel
Flight + Hotel + Car Hire
Holidays
Activities

Travel Insurance

Destination: | Australia |

Travel Dates

Start Date: | 23 | | November | | 2006 |

End Date: | 06 | | December | | 2006 |

Number of travelers

Adults: | 1 |

Children: | 0 |

| Calculate |

Hypothetical Online Travel Agency XYZ

| Flights | Hotels | Car Hire | Rail | Deals | Travel Insurance | **Destinations** | Holidays |

| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

Destinations
Africa
Asia
Australia
Europe
New Zealand
Pacific
South America
USA & Canada
Destination Guide

| Flights | Hotels | Car Hire | Rail | Deals | Travel Insurance | Destinations | **Holidays** |

| Activities | Restaurants | Entertainment | Credit Card | Travel Guide |

Holiday Specials
Tours
 Beach
City
Family
Luxury
Honeymoon
Outback
Short Break
Weekends Away
Adventures
Backpacking
Build Your Own Package

| Flights | Hotels | Car Hire | Rail | Deals | Travel Insurance | Destinations | Holidays |

| **Activities** | Restaurants | Entertainment | Credit Card | Travel Guide |

Activities
Wine Tour
Hot-Air Balloon
Horse Riding
Ski

Hypothetical Online Travel Agency XYZ

| **Flights** | **Hotels** | **Car Hire** | **Rail** | **Deals** | **Travel Insurance** | **Destinations** | **Holidays** |
| **Activities** | <mark>**Restaurants**</mark> | **Entertainment** | **Credit Card** | **Travel Guide** |

Search for Restaurants

○ Search for your ideal restaurant   ○ A-Z listing

Region:		Date:			
Australia		23	November		☐
Area:		Session:			
Any		Dinner			
Cuisine:		Party size:			
Any		2			**Search >>**

Quick search

[   ]

Restaurant name: ○

Postcode: ○

Categories…
Top 10 dinner offers
Fine dining
Eat out for a tenner
Covent Garden dining
By the waterfront
Top Tourist dining
Dinner & Show
Regional specials
Get a takeaway

| **Flights** | **Hotels** | **Car Hire** | **Rail** | **Deals** | **Travel Insurance** | **Destinations** | **Holidays** |
| **Activities** | **Restaurants** | <mark>**Entertainment**</mark> | **Credit Card** | **Travel Guide** |

Entertainment
Theatre tickets
Concert & Shows
Days & nights out
Sport tickets
Cinema & DVD
Search all Entertainment….

Hypothetical Online Travel Agency XYZ

Credit Card

Apply for a Credit Card Online

Travel Guide

Travel Advice
Online Visa
World Weather
Currency
Airports Information
Arrival/Departure information
Destination Information
Guide to Baggage Allowances
Medical Advice

Hypothetical Online Travel Agency XYZ

| **Flights** | Hotels | Car Hire | Deals | Holidays | Travel Insurance |

Flights
Search Flights
Top Deals
Low fare Alert
Last Minute Packages

| Flights | **Hotels** | Car Hire | Deals | Holidays | Travel Insurance |

Hotels
Search Hotels
Top Deals
Trip Ideals
Popular Cities

| Flights | Hotels | **Car Hire** | Deals | Holidays | Travel Insurance |

Cars
Search cars
Top Deals
Popular Car Destinations

| Flights | Hotels | Car Hire | **Deals** | Holidays | Travel Insurance |

Deals
Flights
Hotels
Flight + Hotel
Flight + Hotel + Car Hire

| Flights | Hotels | Car Hire | Deals | **Holidays** | Travel Insurance |

Holiday Specials

Tours
 Beach
City
Family
Luxury
Honeymoon
Outback
Short Break
Weekends Away
Adventures
Backpacking
Build Your Own Package

| Flights | Hotels | Car Hire | Deals | Holidays | **Travel Insurance** |

Travel Insurance

Destination: Australia

Travel Dates

Start Date: 23   November   2006

End Date: 06   December   2006

Number of travelers

Adults: 1

Children: 0

Calculate

APPENDIX E.3 Product/Service Information Attached at the End of Paper-Based Website #5, 6, 13 &14

Hypothetical Online Travel Agency XYZ

| <mark>**Flights**</mark> | **Hotels** | **Car Hire** | **Cruises** | **Rail** | **Specialist** | **Working Holidays** | **Travel Shop** |

| **Gift Ideas** | **Credit Card** | **Money Services** | **Gambling** | **Auctions** |

Flights
Search Flights
Top Deals
Low fare Alert
Last Minute Packages

| **Flights** | <mark>**Hotels**</mark> | **Car Hire** | **Cruises** | **Rail** | **Specialist** | **Working Holidays** | **Travel Shop** |

| **Gift Ideas** | **Credit Card** | **Money Services** | **Gambling** | **Auctions** |

Hotels
Search Hotels
Top Deals
Trip Ideals
Popular Cities

| **Flights** | **Hotels** | <mark>**Car Hire**</mark> | **Cruises** | **Rail** | **Specialist** | **Working Holidays** | **Travel Shop** |

| **Gift Ideas** | **Credit Card** | **Money Services** | **Gambling** | **Auctions** |

Cars
Search cars
Top Deals
Popular Car Destinations

| **Flights** | **Hotels** | **Car Hire** | <mark>**Cruises**</mark> | **Rail** | **Specialist** | **Working Holidays** | **Travel Shop** |

| **Gift Ideas** | **Credit Card** | **Money Services** | **Gambling** | **Auctions** |

Cruises
Search Cruises
Search by Destination
Search by Cruise Line
Top Deals

Hypothetical Online Travel Agency XYZ

| Flights | Hotels | Car Hire | Cruises | **Rail** | Specialist | Working Holidays | Travel Shop |
| Gift Ideas | Credit Card | Money Services | Gambling | Auctions |

Rail

Search Rail
Top Deals
Popular Passes

Specialist Travel

Group Travel
Business Travel
Working Holidays & Volunteering

Hypothetical Online Travel Agency XYZ

Working Holidays

Work Overseas
Study Abroad
Learn A Language
Volunteer Programs

Travel Shop

Luggage & Storage
Electronics
Camping & Outdoors
Books & Map
Security
Fun & Games

Hypothetical Online Travel Agency XYZ

| **Flights** | **Hotels** | **Car Hire** | **Cruises** | **Rail** | **Specialist** | **Working Holidays** | **Travel Shop** |

| **Gift Ideas** | **Credit Card** | **Money Services** | **Gambling** | **Auctions** |

Gifts Ideas
Chocolate
CDs & DVDs
Books & Map
Fashion and Accessories
Flowers
Bottle Shop
Handbags
Massage & Beauty Treatments
Fragrances and Cosmetics

Credit Card

Apply for a Credit Card Online

Money Services
Personal Loan
Car Insurance
Home Insurance
Life Assurance

Gambling
Casino & Poker
Lotto Tickets
Sports Betting
Bingo

| Flights | Hotels | Car Hire | Cruises | Rail | Specialist | Working Holidays | Travel Shop |

| Gift Ideas | Credit Card | Money Services | Gambling | <mark>Auctions</mark> |

Auctions

Keyword search

Categories…
Hotels
Luxury breaks
Short breaks
Holidays
Gifts & shopping
Art galleries

APPENDIX E.4 Product/Service Information Attached at the End of Paper-Based
Website #7, 8, 15 &16

Hypothetical Online Travel Agency XYZ

| **Flights** | **Hotels** | **Car Hire** | **Travel Shop** | **Money Services** | **Gambling** |

Flights
Search Flights
Top Deals
Low fare Alert
Last Minute Packages

| **Flights** | **Hotels** | **Car Hire** | **Travel Shop** | **Money Services** | **Gambling** |

Hotels
Search Hotels
Top Deals
Trip Ideals
Popular Cities

| **Flights** | **Hotels** | **Car Hire** | **Travel Shop** | **Money Services** | **Gambling** |

Cars
Search cars
Top Deals
Popular Car Destinations

| **Flights** | **Hotels** | **Car Hire** | **Travel Shop** | **Money Services** | **Gambling** |

Travel Shop
Luggage & Storage
Electronics
Camping & Outdoors
Books & Map
Security
Fun & Games

Hypothetical Online Travel Agency XYZ

| **Flights** | **Hotels** | **Car Hire** | **Travel Shop** | <mark>**Money Services**</mark> | **Gambling** |

Money Services
Personal Loan
Car Insurance
Home Insurance
Life Assurance

| **Flights** | **Hotels** | **Car Hire** | **Travel Shop** | **Money Services** | <mark>**Gambling**</mark> |

Gambling
Casino & Poker
Lotto Tickets
Sports Betting
Bingo

Appendix F – The RMIT Human Research Ethics Approval

RMIT
PORTFOLIO HUMAN RESEARCH ETHICS SUB-COMMITTEE

Application for Approval of Research Project
(Note: This form is available on computer disk)

SUMMARY & APPROVAL

Project Title: "Complementarity Bundles of Products & Services on the Internet Environment: Value Perceptions and Usage Intentions"

Name of Researcher: Naruemon Choochinprakarn

Name of Senior Supervisor: Dr Hernan Riquelme

Category of Research Project: 1

Degree for which research is undertaken as part of a degree (if applicable): PhD

School Name: Management

Contact Telephone Number: 94997245

Email Address: S3092281@student.rmit.edu.au

BUSINESS HUMAN RESEARCH ETHICS SUB COMMITTEE USE ONLY:

Date Application Received: 3 April 2006

Portfolio Human Research Ethics Sub Committee Register No: 580

Period of Approval: 8 June 2006 until 12 July 2007

Comments / Provisos: N/A

The Business Human Research Ethics Sub Committee assessed the Project as Category 1

Signature: _____   Date: 21/06/06
          PHRESC Chair

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Appendix G – List of Referencing Travel Website Used in this Study

Name of Travel Websites

1. *directflights.com.au*
2. *escapetravel.com.au*
3. *expedia.com.au*
4. *extragreen.com.au*
5. *flightcentre.com.au*
6. *harveyworld.com.au*
7. *hotwire.com*
8. *ineedaholiday.com.au*
9. *jetset.com.au*
10. *lastminute.com*
11. *lonelyplanet.com*
12. *onlinetravel.com.au*
13. *priceline.com*
14. *statravel.com.au*
15. *studentflight.com.au*
16. *travel.com.au*
17. *travelbag.co.uk*
18. *travelmate.com.au*
19. *Travelocity.com*
20. *travelonline.com.au*
21. *Webjet.com.au*
22. *yahoo.com*
23. *zuji.com.au*

Appendix H – CD-ROM Containing Travel Website Used in this Study

Online Travel Services Survey

This survey is a study on the marketing of products and services offered over the Internet. It is part of my PhD research. This survey will take you approximately 20 minutes to complete.

If you have purchased products/services over the Internet, you are invited to participate in this survey.

There are two sections to this survey. In section one, we are asking you about your experience in online shopping. In section two, we are asking you to examine a hypothetical online travel website and rate your perception about products and/or services offered by this site and some basic background information.

Please note that <u>there is no right or wrong answer</u> to the questions in this survey. Your responses to this survey are <u>**completely anonymous**</u>. Your help is greatly appreciated.

If you have any questions regarding this project please contact either myself, Naruemon Choochinprakarn, on Tel: (03) 9499 7245, email: s3092281@student.rmit.edu.au ; or my supervisors, Professor Brian Corbitt, Tel: (03) 9925 5808, email: brian.corbitt@rmit.edu.au or Dr Konrad Peszynski, Tel: (03) 9925 1654, Email: konrad.peszynski@rmit.edu.au.

Questionnaire - Section I

Please complete this section *before* examining the website.

Please answer the following questions that respond to your Internet shopping experience.

1. How long have you been using the Internet for **purchasing any products**?

   ☐ Less than a year   ☐ 1-2 years   ☐ 2-3 years

   ☐ 3-4 years   ☐ More than 4 years

2. Have you ever purchased **airline tickets** over the Internet?

   ☐ Yes (please go to question 3)   ☐ No (please go to question 5)

3. How long have you been using the Internet for purchasing **airline tickets**?

   ☐ Less than a year   ☐ 1-2 years   ☐ 2-3 years

   ☐ 3-4 years   ☐ More than 4 years

4. How many times have you purchased **airline tickets** over the Internet?

   ☐ Less than 2   ☐ 2 - 4   ☐ 5 - 7

   ☐ 8 - 10   ☐ More than 10

5. Have you ever purchased/booked/used the following products/services **from the Internet**?

	Yes	No
- Hotels	☐	☐
- Car hire	☐	☐
- Cruises	☐	☐
- Rails (such as Eurail Global Pass)	☐	☐
- Travel insurance	☐	☐
- Holidays	☐	☐
- Gifts & Shopping (such as CDs, DVDs, books and map, luggage)	☐	☐
- Money Services (such as loan, car insurance, home insurance)	☐	☐
- Credit Card Services (such as obtaining a credit card via the Internet)	☐	☐
- Entertainment (such as concert and shows, festivals, museums)	☐	☐
- Activities (such as beaches, dives, wine tour, horse riding)	☐	☐
- Restaurants	☐	☐

	Yes	**No**
- Gambling (such as casino and poker, lotto tickets, bingo)	☐	☐
- Auctions (such as hotel, holiday, art gallery auctions)	☐	☐
- Others (please specify) …………………………	☐	☐

Internet Shopping Motivation

To what extent do you agree or disagree with the following statements?

	Strongly Disagree		Neutral			Strongly Agree

1. I enjoy Internet shopping for its own sake, not just for the items I may purchase.   1 2 3 4 5 6 7

2. While shopping for products on the Internet, I try to find just the items I am looking for.   1 2 3 4 5 6 7

3. Shopping for products on the Internet is fun.   1 2 3 4 5 6 7

4. I try to accomplish only what I want to when shopping for products on the Internet.   1 2 3 4 5 6 7

Beliefs about Risk in Internet Shopping

To what extent do you agree or disagree with the following statements?

	Strongly Disagree		Neutral			Strongly Agree

1. There is a chance that if I purchase travel products or services (such as airline tickets, hotels, insurance, etc.) from the Internet, the products may not be worth the money I paid.   1 2 3 4 5 6 7

2. There is a chance that if I purchase travel products or services from the Internet there may be something wrong with the products or that they may not meet my needs, desires, or expectations.   1 2 3 4 5 6 7

3. There is a chance that if I purchase travel products or services from the Internet there may be the difficulty of navigation, submitting the order, potential delays receiving products, or changing products.   1 2 3 4 5 6 7

4. There is a chance that if I purchase travel products or services from the Internet my information (e.g. credit card number, personal details) sent over the Internet may be accessed or shared without my knowledge.   1 2 3 4 5 6 7

Section II

Background information

In this section, assume that you are in Melbourne, Australia, and have a vacation plan to Phuket, Thailand, with a friend. You have an AU$ 5,000 budget for your trip. You are looking for airline tickets and other products and services, such as hotels, travel insurance, activities, entertainment, gifts, rails, cruises, etc. for your travel needs from the Internet.

You will be presented with a hypothetical L&N Travel website, developed for the purpose of this study, offering you products and services for your trip.

Instructions

You have four tasks to accomplish. Please read through them carefully before examining the website.

Task 1: Read through **About us** to learn about the company offerings, including online facilities, products and services, and offline facilities.

Task 2: Learn what **offline facilities (retail stores and/or call centre)** are provided to support your online booking if you have any problems related to your trip and need to talk with sales personnel by reading through **Contact us**.

Task 3: Learn what **online facilities are provided for your flights booking** by:
1. Click on **Flights**
2. Search for flights from Melbourne to Phuket, return airfare, from 1 – 8 December 2007, for 2 adults, economy class
3. Choose an Airline of your choice
4. Enter your details *(Please note: you do not need to give your real personal information in this study)* and submit.

Task 4: Learn what **other products and services** are available for your trip by browsing through the products and services, such as **hotels, car hire,** etc., offered together with the flights. You might spend 5 to10 minutes to browse them.

After completing these four tasks, you will be asked to evaluate your perception in relation to the offerings in the questionnaire-section II.

Now turn to your computer and access the hypothetical L&N Travel website by typing *http://odo.bf.rmit.edu.au/travelsite/index1.html* and complete the four tasks above.

Questionnaire – Section II

Please complete this section *after* you have completed the instructions above.

Please respond to the following statements based on your evaluation of the products/ services offered by the hypothetical L&N travel that you have just browsed.

	Strongly Disagree		Neutral			Strongly Agree	
1. The site offers acceptable price ranges for the products and services.	1	2	3	4	5	6	7
2. It would require a great amount of effort to buy my airline tickets from this site.	1	2	3	4	5	6	7
3. The site gives me the flexibility of online and offline retail store services support.	1	2	3	4	5	6	7
4. The site offers a shopping experience for travel products and services that would enable me to have a wide range of travel products and services to choose from.	1	2	3	4	5	6	7
5. The site offers a shopping experience for travel products and services that would enable me to have the essential products and services needed for my trip.	1	2	3	4	5	6	7
6. Overall, shopping for travel products and services from this site would save a lot of my time.	1	2	3	4	5	6	7
7. Overall, shopping for travel products and services from this site would be very convenient.	1	2	3	4	5	6	7
8. The overall value I get from this site for my money and effort is excellent.	1	2	3	4	5	6	7

Please rate your intentions of possible future behaviour regarding L&N travel services:

	Highly Unlikely					Highly Likely	
If this travel website becomes available, how likely are you to:							
1. search for product information on this site?	1	2	3	4	5	6	7
2. say positive things about this site to other people?	1	2	3	4	5	6	7
3. recommend this site to your friends or family?	1	2	3	4	5	6	7
4. visit this site again?	1	2	3	4	5	6	7
5. purchase products/services available on this site?	1	2	3	4	5	6	7

Please tick the following items that best describe your demographic details
(This information is used for classification purposes only).

1. Your gender: ☐ Female ☐ Male

2. Your age: ☐ 18 -25 ☐ 26-35 ☐ 36-45
☐ 46-55 ☐ Over 55

3. Please indicate your occupational category:
☐ Government ☐ Telecommunications
☐ Banks ☐ Education
☐ Sales ☐ Information system
☐ Student – post graduate: ☐ overseas student ☐ local student
☐ full time student ☐ part time student

☐ Other (please specify …………..……)

4. Your ethnicity (check all that apply):
☐ Oceania (Australian, New Zealander) ☐ Asian ☐ European
☐ American ☐ Hispanic ☐ African and Middle Eastern
☐ Other (Please specify ……………………..………....)

5. Please indicate your annual household income in Australian dollars:
☐ Less than 15,000 ☐ 15,000 – 24,999 ☐ 25,000 – 34,999
☐ 35,000 – 49,999 ☐ 50,000 – 74,999 ☐ 75,000 – 99,999
☐ Over 100,000

Thank you for your time and cooperation.

Appendix J – Description of Multi-Item Indicators Used in Experiment Two

Perceived Value Indicators

The following perceived value items were rated on (1) = 'Strongly Disagree' and (7) = 'Strongly Agree'.

1. The site offers acceptable price ranges for the products and services.

2. It would require a great amount of effort to buy my airline tickets from this site.

3. The site gives me the flexibility of online and offline facilities (retail store/call centre) services support.

4. The site offers a shopping experience for travel products and services that would enable me to have a wide range of products and services to choose from.

5. The site offers a shopping experience for travel products and services that would enable me to have the essential products and services needed for my trip.

6. Overall, shopping for travel products and services from this site would save a lot of my time.

7. Overall, shopping for travel products and services from this site would be very convenient.

8. The overall value I get from this site for my money and effort is excellent.

Behavioural Intention Indicators

The following behavioural intention items were rated on (1) = 'Highly Unlikely' and (7) = 'Highly Likely'.

If this travel website becomes available, how likely are you to:
1. search for product information on this site?

2. say positive things about this site to other people?

3. recommend this site to your friends or family?

4. visit this site again?

5. purchase products/services available on this site?

Appendix K – Invitation Letter to Participate in the Research Survey

RMIT University

Business Portfolio

School of Business Information Technology

INVITATION TO PARTICIPATE IN A RESEARCH PROJECT
PROJECT INFORMATION STATEMENT

Project Title:
o Complementarity Bundles of Products and Services on the Internet Environment: Value Perceptions and Behavioural Intentions

Investigators:
o Ms Naruemon Choochinprakarn (PhD candidate)
o Professor Brian Corbitt (Project Supervisor: Head, School of Business Information Technology, RMIT University, brian.corbitt@rmit.edu.au , 9925-5808)

Dear Sir or Madam,

If you have purchased any products/services over the Internet, you are invited to participate in this research project. This information sheet describes the project in straightforward language, or 'plain English'. Please read this sheet carefully and be confident that you understand its contents before deciding whether to participate. If you have any questions about the project, please ask one of the investigators.

I am currently a PhD candidate, School of Business Information Technology, RMIT Business, and my senior supervisor is Professor Brian Corbitt. My research project is being conducted as part of a PhD program. The project has been approved by the RMIT Human Research Ethics Committee.

You are invited to participate in this research project because your experiences in purchasing products over the Internet will be very useful for the study. You have been approached to participate in this project along with other students who have enrolled at RMIT in Semester 2, 2007. A total of 480 participants are expected to participate in the main study.

The overall aim of this research project is to investigate what prospective customers perceive to be the most valuable offers of products and services provided together on retailer websites. The project will address the following main questions:
1. What type of complementary products and services offered online do customers value the most? and
2. To what degree does the value customers place on these online products and services relate to their future use?

Your part in this project is to evaluate online travel websites, paying particular attention to the main product (flights) and additional products/services as well as online self-service facilities provided for purchasing airline tickets online. You will be asked to complete a survey in two sections. In the first section, you will be asked to describe your online shopping experiences and indicate your online shopping motive. In the second section, you will be asked to assume that you have a vacation plan to Phuket, Thailand, and are looking for airline tickets and other products and services. You will be presented with a hypothetical travel agency website that offers flights and other products and services, online booking facilities for making reservations, and customer services support. You will be asked to book and browse these services by following instructions. Then, you will be asked to evaluate the hypothetical website according to the offers it makes. You will also be asked about your future interest about the services. At the end of the questionnaire, you will be asked to provide some basic background information.

There is no right or wrong answer. We are just interested in your perception of these products and services offering. This survey will take you about 25 minutes to complete. I invite you to examine the questionnaire before deciding whether you want to participate.

As a participant, there are no perceived risks to you outside your normal day-to-day activities. If you are unduly concerned about your responses to any of the questionnaire items or if you find participation in the project distressing, you should contact my supervisor, Professor Brian Corbitt, as soon as convenient. Professor Brian Corbitt will discuss your concerns with you confidentially and suggest appropriate follow-up, if necessary.

There is no direct benefit to you as a result of your participation. However, it is hoped that your responses will shape the products and services provided for you in the future.

All information provided by you is confidential and only my supervisor and I will have access to it. Any information that you provide can be disclosed only if (1) it is to protect you or others from harm, (2) a court order is produced, or (3) you provide the researchers with written permission. The data collected will be analysed for my thesis and the results may appear in publications. The results will be reported in a manner that does not enable you to be identified. Your anonymity will, therefore, be protected. Research data will be kept securely at RMIT for a period of 5 years before being destroyed.

Participation in this research is voluntary. You have the right to withdraw your participation at any time, without prejudice; the right to have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for the participant; and the right to have any questions answered at any time.

If you have any questions regarding this project please contact myself, on Tel: (03) 9499 7245 or email: s3092281@student.rmit.edu.au; my supervisor, Tel: (03) 9925 5808, or email: brian.corbitt@rmit.edu.au; or you can contact the chair of the Business Portfolio Human Research Ethics Sub-committee, Tel: (03) 9925 5594, fax: (03) 9925 5595, or email: rdu@rmit.edu.au.

Yours Sincerely

Naruemon Choochinprakarn
PhD candidate
School of Business Information Technology
Royal Melbourne Institute of Technology (RMIT) University
Victoria 3000, Australia.

Go to the Questionnaire, please follow the link *http://www.rmit.edu.au/bus/bit/otss1*

Appendix L – Interview Questions Protocol

Interview questions

1. During airline tickets booking exercise, Task 1, the interviewee will be asked:
   Q1: Why do you choose that particular airline?
   Q2: Besides the ability to book online, what other online self-service facilities do you want?

2. After booking exercise, the interviewee will be asked:
   Q3: Besides airline tickets, what other products or services are you going to choose for your trip? Why?

3. During Task 2 exercise, browse through other products/services, the interviewee will be asked:
   Q4: Why do you choose this product/service for your trip? and
   Q5: Why do you choose that choice of product/service?

4. Before finishing the exercise, the interviewee will be asked:
   Q6: How would you evaluate a travel website when purchasing travel products from the Internet? What criteria do you use?
   Q7: Is there anything else you would expect from a travel website and, if so, what and why?

Thank you for your time and cooperation.

Appendix M – The Interview Exercise

The Interview Exercise
Online Travel Services

The purpose of the interview is to understand customers' behaviour when shopping for travel products/services online. In the interview exercise, you will be asked to:

1. Read through background information and follow the instructions given to you.
2. Respond to the questions asking by the interviewer related to the activities.

Background information

You are to assume that you are going for a holiday. You are looking for airline tickets and other travel products and services for your travel needs from a travel website.

Here are your details:
- Your trip is a holiday to Phuket, Thailand
- You are travelling with a friend
- Dates: 1 – 8 December 2007
- $ 5,000 is the budget for your trip
- Your travel agent is a hypothetical L&N Travel Agency, developed for the purpose of this study, offering you products and services for your trip.

Instructions

Now turn to the computer and access the hypothetical L&N Travel website by typing *http://odo.bf.rmit.edu.au/travelsite/index9.html* and complete the two tasks below.

1. **Book** your airline tickets:
- from Melbourne to Phuket
- return airfare
- from 1 – 8 December 2007
- for 2 adults
- economy class

2. Browse through the other products/services/information offered together with the Flights for your trip.

Appendix N – Revised Explore Syntax

EXAMINE
VARIABLES=MeanValue BY component **BY** range **BY** online **BY** offline
/PLOT BOXPLOT STEMLEAF NPPLOT
/COMPARE GROUP
/STATICTICS DESCRIPTIVES
/CINTERVAL 95
/MISSING LISTWISE
/NOTOTAL.

Appendix O – Steps in Examining a Two-Way Interaction with Two Levels per Factor

The following are steps in examining a two-way interaction with two levels per factor using the moderator or cell mean approach adopted from Jaccard (1998).

Step 1: Specify the focal independent variable and a first-order moderator variable (the second independent variable).

Step 2: Calculate the parameter value for each level of the first-order moderator variable. Compute the difference between these parameter values as a function of the first-order moderator variable. This is the parameter value for the two-way interaction. If the two-way interaction is significant, then it can be concluded that the parameter value for the two-way interaction in the population is not zero.

Step 3: Conduct any simple main-effects analyses that are of theoretical interest. The simple main-effects tests often are conducted examining the effects of the focal independent variable at each level of the moderator variable.

Appendix P – Steps in Examining a Three-Way Interaction with Two Levels per Factor

The followings are steps in examining a three-way interaction with two levels per factor using the moderator approach suggested by Jaccard (1998).

Step 1: Specify the focal independent variable, a first-order moderator variable, and a second-order moderator variable.

Step 2: Define the two-way interaction between the first-order moderator variable and the focal independent variable at each level of the second- order moderator variable. Calculate the parameter value for each of these two-way interactions. Compute the difference between these parameter values as a function of the second-order moderator variable. This is the parameter value for the three-way interaction. If the three-way interaction is significant, then it can be concluded that the parameter value for the three-way interaction in the population is not zero.

Step 3: For each of the two-way interaction specified in Step 2, test those simple interaction effects that are of theoretical interest.

Step 4: Specify simple-simple main effects that represent the impact of the focal independent variable on the dependent variable at the various combinations of the first- and second-order moderators. Test any simple-simple main effects that are of theoretical interest.

Appendix Q – A Syntax For Simple Interaction Effects Test

MANOVA MeanValue BY offline (1,2) online (1,2) prange (1,2)
 /ERROR=WITHIN
 /DESIGN= online by prange WITHIN offline (1),
          online by prange WITHIN offline (2),
          offline*online, offline*prange, offline, online, prange.

Appendix R – A Syntax For Simple-Simple Interaction Effects Test

MANOVA MeanValue BY prange $(1,2)$ online $(1,2)$ offline $(1,2)$
 /DESIGN=online, offline, online by offline,
       prange WITHIN online(1) by offline (1), prange WITHIN online(1) by offline (2),
       prange WITHIN online(2) by offline (1), prange WITHIN online(2) by offline (2),
 /DESIGN=offline, prange, prange by offline,
       online WITHIN prange(1) by offline (1), online WITHIN prange(1) by offline (2),
       online WITHIN prange(2) by offline (1), online WITHIN prange(2) by offline (2).