Older Adults' Information Technology Usage and Travel Behaviours

BY

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Abstract

As both the rapid progress of Information Technology (IT) and the trend of an aging population are greatly interrelated with the development of tourism, it is important to investigate how older travellers make use of IT for their vacations. The purpose of the paper is to explore the connections among age, IT adoption traits and traveller information needs and how they may relate to travellers IT usage, including IT selection, frequency/level and information searching strategies. Correspondently, a conceptual framework was drafted based on the literature review. This study employed a paper and web based survey with a nonprobability sample of Canadian leisure travellers to test and revise the proposed framework.

The results (N=222) indicated that an aspect of "digital divide" still exists for older people when it comes to more technologically advanced IT equipment/services such as personal digital assistant and wireless devices. Also, for researchers and practitioners in both tourism and IT industries, computer anxiety and personal innovativeness in IT were shown to be useful indicators to predict people's frequency of IT use; while age, computer self-efficacy and personal innovativeness in IT are important factors to predict people's level of IT use. Finally, age was not related to travellers' online information searching strategies in this study, while higher computer self-efficacy and higher computer anxiety are related to more analytical and more browsing information searching strategies respectively. The findings of this study have practical and theoretical implications for tourism; however, limitations such as limited generalizability exist due to the nonprobability sample. Future research could explore cohort differences in IT usage and online information search and focus on the growing segment of wireless travellers.

Chapter I

Introduction

Starting from the 1960s, the rapid progress of Information Technology (IT) has influenced the world dramatically, ranging from society, community, and other industries to the individual person. Furthermore, along with the proliferation of the Internet in the 1990s, the entire world has been networked and the world economy has become globally connected (Buhalis, 1998).

As one of the biggest global industries, tourism is completely influenced by IT, mainly due to tourism's special characteristic – information reliance. As well, travellers cannot really consume the travel products at the time of their purchase until they physically go to the destination. Therefore, IT facilitates tourism by providing both tourism practitioners and consumers with instant information as "Information is the lifeblood of tourism" (Buhalis, 1998, p. 409). In addition, IT becomes an imperative partner of tourism, because the tourism industry increasingly employs IT as a tool to conduct "tourism marketing, distribution, promotion and co-ordination" (Buhalis, 1998, p. 411) in order to meet the challenges faced by both supply side and demand side of tourism. As a result, the development and future of tourism are greatly interrelated with the development of IT.

The development of the tourism industry not only depends on the progress of Information Technology, but also the understanding of social and demographic trends. With the trend of an aging population, older travellers will account for a significant proportion of the overall travel market, particularly when baby boomers join the 55 +

age groups over the next ten years (McDougall, 1998).

Significance of the Study

Current research regarding tourism and IT suggests a need for changing the study focus from the supply side to the demand side of the tourism industry because changes in customers' travel information seeking and purchasing behaviours drive changes in the tourism industry (Bjork & Guss, 1999). A number of studies have placed their focus on general tourist information search behaviours (Fodness & Murray, 1999; Vogt & Fesenmaier, 1998); however, insufficient research has focused upon online travellers' information search behaviours. What is more, even though some studies have touched on these online travellers' information search behaviours, they did not pay specific attention to older travellers (Buhalis, 2003; Weber & Roehl, 1999). The primary purpose of this study is to investigate how older adults use information and specifically IT to plan and experience their vacations. More specifically, the study aims to explore the connections among age, IT adoption traits and travellers' information needs and how they may relate to travellers IT usage, including IT selection, frequency/level and information searching strategies. Therefore, this study will not only fill a research gap, but also add important information to help understand the factors that influence older adults' IT usage for their vacations. Furthermore, it will add to the knowledge base of travel information search literature by expanding it to include this increasing population.

Definitions

Since this study focuses on older adults, it is important to define "older adult".

Nevertheless, defining the "older adult" cohort accurately is not a simple task. People often define older persons as those over 65 in chronological terms; however, some people who are 80 years old might seem young and some people who are 50 years old appear very old according to their personal emotions, adjustment and attitude towards their age (Hooyman & Asuman Kiyak, 1999). In addition, because different researchers use different terms such as "seniors" (Czaja & Lee, 2003; Van Harssel, 1995) and "older adults" interchangeably as well as employing a variety of cut-off ages to define "older adults" or "seniors", such as "50 +" (Leavengood, 2001), "55 +" (Filipczak, 1998; Wang & Fesenmaier, 2004), "60 +" (Selwyn, 2004) and "65 +" (Czaja & Lee, 2003; Van Harssel, 1995),the literature reflects enormous variability and inconsistency. Faranda and Schmidt (1999) suggested that a starting age for defining older adults could range from a low of 50 to a high of 65. It is also important to note that the studies referenced in this thesis followed their own starting age to defining "older adults", which is noted throughout.

For the purposes of this study, the term "older adults" will be used with the starting age of 55 +. The decision was based on the distribution of the age data for respondents and is supported by a number of reasons. Firstly, Faranda and Schmidt (1999) argued that the cut-off ages higher than 55 years (e.g., 65 +) are too restrictive because they limit researchers' ability to compare older participants with their younger counterparts in terms of travel interest, attitudes, activities and so on; that is, they prevent researchers from knowing whether those travel interest, attitudes, etc., are common to adult travellers of all ages or unique to specific age groups such as

older adults aged 55 and older. Secondly, the 55 + cut-off age allows researchers to assess the dynamic changes in the future aging travellers' travel behaviours. For example, based on the statistics from Statistics Canada, by the year of 2016, Canada's first-wave of baby boomers (born in 1946-1955) will reach 61-70 years old, and the second-wave (born in 1956-1965) will reach 51-60 years old (McDougall, 1998). Finally, Statistics Canada uses age 55 as a cut off for age categories such as 55-64, 65-74, and 75-84 and so on to indicate aging Canadians (Statistics Canada, 2006).

Chapter II

Literature Review

Extensive research has been carried out to explore the fields of tourism, Information Technology (IT) and gerontology respectively; however, less emphasis has been placed on the interrelationship among these three fields. To begin to build the connection, a number of topics are examined in this literature review, namely, tourism and IT, tourism and older adults, and older adults and IT. After reviewing these connections, other key constructs will be explored to direct deeper understanding of older adults' IT usage for their travel, including age, IT adoption traits (e.g., Computer Self-Efficacy), IT usage (e.g., online information searching strategies), and travel information needs.

Tourism & IT

DEFINITIONS OF IT

IT develops so fast that it is hard to make an accurate generalization of what it fully entails. According to the definition from the North Dakota State Government website, Information Technology means "the use of hard ware, software, services, and supporting infrastructure to manage and deliver information using voice, data, and video" (2005).

Since IT is such a broad term for tourism, practitioners within the tourism industry usually narrow down the range of IT by considering IT as Internet Technology only. It is reasonable to consider IT as Internet Technology, not only because Internet Technology uses the same abbreviation (IT) but also it represents the

trend of IT development. Normally, Internet is considered as "a completely open communication platform that allows communication with existing or potential customers, suppliers, financial institutions and other sources of information" (Schertler & Berger-Koch, 1999, p. 28).

IT DEVELOPMENT IN TOURISM

Although IT seems new to many people, IT has actually influenced tourism for a long time. Originally appearing in the early 1960s, Computer Reservations Systems (CRSs) were first introduced by Airlines to handle their inventories and distribute tourism products (Werthner & Klein, 1999). Hotel chains and tour operators also realized the benefits of CRSs and developed their own CRSs (Buhalis, 1998). The CRSs dominated the tourism industry in the 1970s and the early 1980s until they were expanded to Global Distribution Systems (GDRs) in the mid 1980s (Buhalis, 2003).

Since the mid 1980s, CRSs developed into Global Distribution Systems (GDSs), corresponding to the trend of globalization (Werthner & Klein, 1999). Compared to CRSs, GDSs expanded their geographical coverage and acted as the "circulation system of the tourism products in the international market" (Buhalis, 2003, p. 94). That is, GDSs connected different sections of the tourism industry such as airlines, hotels chains and travel agencies and tour operators together and achieved greater synergies (Buhalis, 1998). After that, the development of IT embedded firmly into the Tourism industry and became an integral part of tourism development. Both CRSs and GDSs have changed the structure of the tourism industry and boosted

tourism development; however, they had not completely reached their potential until the electronic age embraced the introduction of the Internet and World Wide Web (WWW) in the 1990s (Buhalis, 1998).

Internet and WWW have many obvious advantages: firstly, they open a window to both supply side and demand side of the tourism industry, facilitating direct and close interaction; secondly, they speed up the process of information and tourism products exchange and distribution between tourism providers and consumers; thirdly, they reduce the operation cost of tourism enterprises, especially small and medium-sized tourism enterprises (so that they can compete with their larger counterparts); fourthly, they empower the consumers to communicate directly with tourism enterprises in order to either require information or purchase tourism products (Buhalis, 1998).As a result, Internet Technology dominates the whole tourism industry now with its unparalleled advantages.

So what will be the next wave of technological evolution? Weithner and Klein (1999) have identified the most significant technological development as technological convergence, which is "the integration of hardware, software and intelligent applications through networking and advanced user interfaces" (Buhalis, 2003, p. 22). For example, several available technologies such as WAP (Wireless Application Protocol), Bluetooth, and Third-generation (3G) allow today's mobile phones to access the Internet and to perform as mini-computers. The Australian tourism information system "TIScover" actually has already achieved this goal by providing its consumers with high quality of information access via their cellular

phones (Proll & Retschitzegger, 2000).

As mentioned above, the Internet Technology has networked the world in a magical manner. It is anticipated that network will occur anywhere regardless of what network it is (it can be a telephone network, a cable network or a wireless network). People can just get access to one or more networks through one or more gateways with different equipment such as TV, phone and computer and so on. A report from the Information Technology Association of Canada (2003b) stated that "access" has become the new product. When focusing more specifically on tourism, it is anticipated that people can access the information and receive services anytime through the most convenient method such as mobile phone, laptop, and GPS and so on from anywhere. That is, "the right information can be delivered at the right time to the right user at the right cost" (Buhalis, 2003, p. 22).

TOURISM DEVELOPMENT

Along with the development of IT, the tourism industry is undergoing a dramatic change from "old tourism" to "new tourism". "Old tourism" still delivers services to consumers in a traditional manner, which is characterized by "mass, standardized and rigidly packed" tourism (Buhalis, 2003, p. 128). This kind of tourism pays little attention to tourists' personal needs and lacks flexibility. However, with the advance of the Internet in the early 1990s, "new tourism" has been emerging, providing its consumers with unique services in an innovative manner. This kind of tourism is characterized as "flexible, segmented, customized and diagonally integrated" with enormous attention to tourists' personal needs and choices (Buhalis,

2003, p. 128). Even though some consumers might still prefer the "old tourism", the Internet Technology has changed the entire tourism industry so much that all kinds of tourism will involve the Internet more or less. It is therefore reasonable to state that the era of eTourism is coming already.

eTourism is characterized by e-Commerce, which is defined as "trade that actually takes place on over the Internet, usually through a buyer visiting a seller's website and making a transaction there" (Define and sell, 2000, p. 6). From this definition, it is obvious that websites really play a crucial role in e-Commerce, especially for those on-line brokers and direct suppliers. No matter if the travel intermediary sells its products on-line or not (i.e. traditional intermediaries), a website has become the gateway to a company's brand, products and services, promoting this company globally without any time limit.

e-Commerce is beneficial to electronic intermediaries; however, it also imposes a critical issue to the traditional tourism intermediaries (i.e., travel agencies and tour operators), which is the disintermediation of the tourism industry (Buhalis, 1998). That is, people will reach the direct suppliers and purchase tourism-related products on line rather than relying on traditional tourism intermediaries; but the current situation shows that disintermediation is not as pervasive as it should be, because the majority of current tourists use the Internet for collecting information and planning their trips and book their tourism products off-line through traditional intermediaries. For example, a survey released by NFO Plog Research in 2001 indicated that 93 percent of Web surfers visited Web sites when planning their

vacations, while only 54 percent of them agreed that online booking is a reliable method (Lake, 2001), resulting in "too many lookers, too few bookers" (Buhalis, 2003, p. 126).

Research correctly predicted that tourism products would become one of the most popular products for on-line purchasing, mainly including air tickets, hotel, car rental, etc. (Buhalis, 2003). Weber and Roehl (1999) also anticipated that on line shopping for travel products would increase as more people have access to the Internet and become more comfortable with on-line purchasing. The Internet is not likely to become the only medium for purchasing tourism-related products, however.

Based on the current situation of the tourism industry, it is evident that IT empowers consumers (the demand side) to communicate directly with suppliers in order to either inquire information or purchase Tourism products on-line. Hence, the development of the tourism industry actually is driven by the changes of consumers' information searching, travel planning and tourism product purchasing behaviours either on-line or off-line (Bjork & Guss, 1999; Buhalis, 2001).

Tourism & Older Adults

Van Harssel (1995) suggested that the mature market (people aged 50 and over) is one of the most promising markets for leisure travel. Faranda and Schmidt (1999) also indicated that aging consumers become a very attractive market for the tourism industry "when one combines their greater economic well-being with their escalating numbers, more independent living, and better overall health" (p. 4).

The size of the mature consumer market is well documented. Population

statistics from WTO showed that 10% of the world's population of 6 billion was 60 years of age and over in 1999, this percentage will double by 2050 (Dann, 2001). In most developed countries, the older population is growing faster than the population as a whole (Markson, 2003). The increase is even more evident in most Western developed countries with their decreasing birth and mortality rates (McDougall, 1998). In Canada, people who are 55 years of age and over made up 22 percent of the total population (Statistics Canada, 2006). As mentioned above, because baby boomers will be joining the 55+ age groups over the next ten years, the percentage of older population will reach a higher level since baby boomers make up one-third of Canada's population in 1998 (McDougall, 1998). Therefore, as the baby boomers enter this market, the potential for growth of the tourism industry is significant. As well, their higher levels of education and incomes (two factors that positively correlate with travel) will stimulate them to travel (McDougall, 1998; Van Harssel, 1995).

OLDER ADULTS' TRAVEL BEHAVIOURS

According to Horneman, Carter, Wei, and Ruys (2002), the reason that people aged 65 and older have become an important tourism market segment is because they have the discretionary income and time to travel. As well, other research has shown that more than 60 percent of people who are over 50 years of age are in good or excellent health and more than 75 percent of them consider tourism as one important aspect of physical well-being, preventing them from poor health and social exclusion (Dann, 2001). Hence, older adults like to and are able to travel; however,

knowledge about the travel behaviours of older adults is not being fully developed, partly due to the stereotype held by the tourism industry that older travellers are a uniform market segment (Horneman et al., 2002; Van Harssel, 1995); but the fact is that the older travel market is distinct, diverse and demanding (Van Harssel, 1995).

According to past studies, people aged 65 and older have the following characteristics in regard to their travel behaviours: they are less likely to be interested in seeking adventure-type holiday and tend to travel greater distances and stay away longer than any other age groups (Horneman et al., 2002). In addition, they like the products that can keep them active and prefer traveling in groups (Van Harssel, 1995). Finally, they often are experienced travellers who tend to conduct less information search than their younger counterpart (Fondness & Murray, 1999).

In terms of information search, research suggested that people aged 65 and over usually engage in internal rather than external information search for their trips (Javalgi, Edward, & Rao, 1992). Internal search refers to the information retrieval from one's long-term memory, while external search means information search from sources other than memory (Beatty & Smith, 1987). Older travellers use internal information search because they have had past travel experiences. If their past experiences cannot provide them with enough information, they will start searching for external sources. Beatty and Smith (1987) divided the external travel information into four categories: (1) personal (i.e., friends, family members), (2) marketer-dominated (i.e., advertisements and promotions), (3) neutral (i.e., travel agents), and (4) retailers (i.e., direct contacts). Research with adults who were 65

years and older supported the categorization of external travel information sources. For example, these older travellers were more likely to rely on the advice from traditional travel professionals such as travel agents or trip coordinators when they planned their vacations (Van Harssel, 1995). In addition, they like to get travel information from reading promotional and informational literature as well as word of mouth based on experiences of other people (Van Harssel, 1995). Research with adults who were 65 years and older also identified that for external travel information sources, older people most highly prefer: print material (e.g., brochures, travel guides), word of mouth and travel agents; then the mass media such as TV, radio, and newspaper (Horneman et al., 2002). Their lowest preference was for the Internet, clubs and associations, reward programs, and non-travel magazines (Horneman et al., 2002).

The results above showed that the Internet is ranked as one of the least preferred and used information sources. The reasons for non-adoption or less adoption of the Internet as a valuable information source among past older travellers are complicated, and are discussed in the following section. As the baby boomers age, it is anticipated that they will be more likely to employ the Internet to gather travel information, not only because they have higher education, but also the diffusion of the Internet Technology will be at Internet speed and influence everybody's daily life in every aspect (Buhalis, 2003).

Older Adults & IT

Technical advances and the wide use of computer technology have made

Internet access possible for a large number of people. Many commentators even stated that the ability to use Information Technology is a prerequisite to be living in the information age (Selwyn, 2004). Comquest Research in 2001 reported that more than two-thirds of Canadian adults have access to the Internet through home, work, school or elsewhere (Information Technology Association of Canada [ITAC], 2003a). For those who access the Internet, 84 percent connect monthly and 67 percent connect weekly (ITAC, 2003a).

Nevertheless, a long-lasting perception regarding the older population is that people aged 55 and older cannot or will not learn to use computers and related technology at all (Filipczak, 1998). Many studies have proved that this is a misconception. One study funded by Microsoft showed that 30 percent of older adults between the ages of 50 and 79 in the United States own and use a computer (Leavengood, 2001). Filipczak (1998) also pointed out the computer market for adults who are 65 years of age or over is growing, while the market for the younger generation is stagnant. In terms of Internet use, Leavengood (2001) stressed that just like sophisticated users of all ages, older adults navigate the Internet and perform many Internet-related tasks such as online banking, online shopping and information searching. In Canada, the 55+ age group underwent an over 50 percent growth in Internet use, becoming the fastest growing age segment of users (ITAC, 2003a). Furthermore, people who are 65 years old and over and people who are 55 to 64 years old account for 14 percent and 25 percent of all Canadian Internet users respectively (ITAC, 2003a). Therefore, it is obvious to conclude that older adults like to use

computers and the Internet. Many businesses have recognized this growing market. For instance, Microsoft and Intel try to attract as many older buyers of computer hardware and software as possible by supporting research on the older adult market. Some other companies (Sageport, Sagevision, and It's Never 2 Late) also provide programs and equipment to facilitate older people and people with disabilities using computers and getting access to the Internet (Leavengood, 2001).

Despite the promising future of IT use and older adults market, older adults are still part of the "digital divide". According to Wikipedia (online encyclopedia) digital divide is defined as "the gap between those with regular, effective access to digital technologies and those without" (2006). In order to close the gap among older adults, the following two sections examine reasons for adoption or non-adoption of IT.

REASONS FOR ADOPTION OF IT

Older adults who like to learn computer skills and about the Internet usually recognize the benefits that IT brings to them. Two different studies conducted by Czaja, Fisk, Hertzog, Rogers, Charmess, Nair, and Sharit (2006) and Czaja and Lee (2003), which used "60 +" and "65 +" as cut-off ages respectively, have concluded that one of the most obvious benefits is that IT promotes inclusion and connection. For example, IT (i.e., MSN, Email, Chat room) can be employed as a communication tool to keep in contact with family, friends, and their health care providers. In addition, they can form connections with other older adults to receive support in difficult times. Another important benefit is that IT promotes independence (Czaja et al., 2006; Czaja

& Lee, 2003). For example, for those people who have disabilities or disease or lack transportation, they can employ IT to manage their financial issues such as online investment or online banking. As well, they can purchase a wide variety of goods through online shopping. The third benefit is that IT expands employment opportunities for older adults (Czaja & Lee, 2003). Many older adults will go back to the workforce after their retirement. Combining their many years of working experience and computer skills, they are quite competitive in many industries. The fourth benefit is that older adults can pursue continuing education through the Internet (Czaja et al., 2006; Czaja & Lee, 2003), which meets many older adults' needs and respects some older adults' dignity because some older adults are reluctant to take courses together with much younger students. Grodsky and Gilbert (1998) stressed another potential benefit, which is that computer literacy and the Internet empower people aged 65 years and older who have lived through most of the 20th century to give back and share their wisdom and experience in an entirely new way.

Besides these benefits, many other factors contribute to the adoption of IT for older adults' daily lives. Grodsky and Gilbert (1998) stated that some people aged 65 years and older wish to bridge the generation gap through learning new computer skills. That is one of the reasons that older adults either purchase new computers or inherit older models from their children. Research by Selwyn (2004) also concluded the following reasons based on respondents aged 60 and older: (1) family members' encouragement and peers' influence are main reasons for many older adults who learn how to use a computer; (2) having a computer is an expected status symbol within

many older adults' social network; (3) using IT has become some older adults' primary interests and hobbies or a means to better their other leisure activities and hobbies; (4) remaining active.

REASONS FOR NON-ADOPTION OF IT

Compared to the reasons for adopting IT, older adults tend to have more reasons not to adopt IT in their daily lives, which include technical (Czaja & Lee, 2003; Grodsky & Gilbert, 1998; Morrell, Dailey, & Rousseau, 2003; Rogers & Fisk, 2003), biophysical (Filipczak, 1998; Hardy & Baird, 2003; Morrell et al., 2003), psychosocial (Leavengood, 2001; Selwyn, 2004) and socioeconomic barriers (Rogers, 2003; Selwyn, 2004).

Technical Barriers:

Some older adults aged 65 and older do not even know how to turn on the computer and some know the basics but still need more practical instruction (Grodsky & Gilbert, 1998). Rogers and Fisk (2003) pointed out that usability of IT, such as poor system design is a less obvious reason for people aged 65 and older not to adopt IT for their daily lives. For example, research with people aged 65 and older found that technological failure of a computer and inconsistency of Web sites design distracts, confuses, and frustrates older adults (Czaja & Lee, 2003). Many companies such as Microsoft have put a lot of effort to form guidelines to develop a website; however, many Web site designers just do not follow the guidelines, which results in inaccessibility to many people aged 65 and older, especially those who have age-related problems such as problems with vision, cognition, and motor skills and so

on (Morrell et al., 2003). As well, online booking that involves multiple steps might frustrate older adults (Rogers & Fisk, 2003).

Biophysical Barriers:

Some older adults have difficulty seeing the screen clearly due to visual problems (Filipczak, 1998). In addition, the hardware and accessories of a computer can create a challenge to some older adults aged 65 and older (Morrell et al., 2003). For example, the mouse is often hard to control, which includes moving too fast or too slow, difficulty in double clicking, hitting and scrolling, especially for those who have arthritis. Furthermore, the rapid progress of IT challenges the perceptual, cognitive, and psychomotor abilities of some adults aged 65 and older due to their aging brain (Hardy & Baird, 2003).

Psychosocial Barriers:

Leavengood (2001) found that adults aged 50 and older who are novice computer users have fears of being left behind and are usually challenged by new technology. Selwyn (2004) concluded that many adults aged 60 and older are just not interested in using Internet; however, they will use the phone to perform many daily activities such as booking a hotel room or buying a flight ticket. One possible reason derived from here is that some older adults do not consider telephone as part of IT. Many perceive computers as "something to be used for its own sake rather than a genuinely useful tool" as well as feeling lack of usefulness toward the Internet (pp. 375-376). Consequently, they see no need to use computers. Some adults aged 60 and older do not associate computers with their leisure activity. They prefer information in

the paper form rather than electronically. Many people aged 60 and older wanted to adopt the technology originally; however, they were frustrated by some technical difficulties and gave up. Furthermore, they consider using a computer as another hobby or activity they will not be interested in their later life (Selwyn, 2004).

Socioeconomic Barriers:

Costs of a computer and the Internet have been cited by some adults aged 60 and older who cannot afford the expense of buying a computer and pay a monthly fee to get access to the Internet (Selwyn, 2004). Typically the workplace is a key site for people to learn how to use computers and most North Americans use the Internet from their employers or educational institutions (Rogers, 2003). Therefore, after retirement, many adults do not have the income and place to support their access to IT or they may have lacked exposure in the workplace (Selwyn, 2004).

Basically, many adults aged 60 and older have a recurring sense of ambivalence toward IT (Selwyn, 2004). That is, they admit that IT (mainly referring to computer and the Internet) is really magical in nature, but they also find that IT is not really suitable to their lives. Besides these barriers, an interesting finding suggested that there may be deeper reasons behind the adoption or non-adoption of IT. Selwyn (2004) found that many of his interviewees could be classified as "lapsed users", which are those people who had "previously used a computer at earlier times in their life but now were not doing so" (p. 376). Thus, researchers must accept the fact that IT is "not universally attractive to, or universally needed by, older adults" unless the practical and psychological barriers have been removed (Selwyn, 2004, p.

382).

OLDER ADULTS' ONLINE INFORMATION SEARCHING BEHAVIOURS

Using the Internet involves information searching, a major task in which people usually engage. Recent research by Buhalis (2003) and Weber and Roehl (1999) indicated that online travel planners and online travel purchasers are more likely to be people younger than 55 years of age and older than 24 years of age respectively. Nevertheless, information searching is a skill that needs to be learned and developed and has been found to pose some difficulties for adults who are 55 years of age and older. As well, information searching is a complex process and places demands on "cognitive abilities such as working memory, spatial memory, reasoning, and problem solving" (Czaja & Lee, 2003, p. 126). One question arises: to what degree do older adults experience difficulty in searching information in the Internet and WWW when compared to their younger counterparts? Three interesting findings are presented below.

Findings from MacKay and Smith (2006) suggested that age differences do occur when older people aged between 60 and 75 and younger people aged 18 and 25 were asked to recall typical text-based information used in destination advertising; that is, younger people outperformed their older counterparts. However, Smith and MacKay (2001) found that age differences do not occur when older people and younger people were asked to recall information from unfamiliar pictures (visual -based) used in destination advertising, suggesting that older people and younger people may process pictorial information in the same manner.

The second finding from Hardy and Baird (2003) indicated that one age difference between younger people (the cohort of 1960) and older people (the cohort of 1930) is their processing speed – the younger one is, the shorter time (on average) it takes. Age is not the only predictor of speed; however, skill is also a crucial predictor of speed, which may buffer the decline that is associated with aging. For example, research found that an experienced older typist aged 60 and older will perform as good as a younger skilled typist aged either 30 or 45 years when considering speed as the only criterion (Bosman, 1993).

The third finding of note is that when comparing the performance of younger and older (65 +) experienced adult Web users, the number of searching strategies was quite similar for both groups; however, the younger group conducted advanced searches more often than the older group, while the older group relied more on system tools such as an online encyclopedia (Rogers & Fisk, 2003). In terms of searching strategies, people usually tend to use a combination of analytic (goal driven) and browsing (data driven) strategies when searching the WWW (Czaja & Lee, 2003). Since many older adults are novice users, they usually tend to adopt browsing strategies more often, which could result in distraction, confusion, frustration, and cognitive overload, etc.

The kind of information older adults usually search is also a valuable topic to research. A study conducted by SeniorNet and Charles Schwab & Co. in 1998 provided two useful lists: top 5 Internet activities performed and top 5 Web sites visited by adults aged 50 and over. The top Internet activities were: (1) exchanging

email with family and friends (72%); (2) researching a particular issue or subject (59%); (3) accessing news or current events (53%); (4) researching vacation or travel destination plans (47%); and (5) accessing local or regional weather information (43%). The top five Web sites were: (1) search engine Web sites (55%); (2) news or current event-related sites (52%); (3) hobby specific sites (41%); (4) health-related sites (39%); (5) investment sites (38%). These two lists reinforce emailing and getting on the WWW as primary ways to generate older adults' interest in adopting IT (Filipczak, 1998).

Based on the above review of literature of these fields, commonalities can be identified. Firstly, older adults are a major growing market for both the computer market and the tourism market. Secondly, travel is related to older adults' health and prevents social exclusion, while IT promotes inclusion and independence. Thirdly, older adults who do not use computers and the Internet tend to have lower education and income levels, disabilities and/or live in rural areas (Czaja & Lee, 2003). Likewise, older adults who do not travel have similar characteristics. Fourthly, future older adults (i.e., baby boomers) represent similar market growth potential for both the tourism and IT fields.

In summary, there is an opportunity for research to shed light on this important travel market segment and to concentrate more on current older adults' IT usage for their vacation planning. Therefore, the following section tries to bring focus to this interesting and promising area of study through further exploring several key constructs, including age, IT adoption traits, IT usage (i.e., online information

searching strategies), and travel information needs.

Age (Beldona, 2005; Lin, 2003; Rogers, 2003) and IT adoption traits such as personal innovativeness in information technology (PIIT) (Agarwal & Prasad, 1998; Thatcher & Perrewe, 2002), computer self-efficacy (CSE) (Compeau & Higgins, 1995a; Czaja et al., 2006; Laguna & Babcock, 2000; Thatcher & Perrewe, 2002) and computer anxiety (CA) (Czaja et al., 2006; Laguna & Babcock, 2000; Thatcher & Perrewe, 2002) are key constructs that occupy many researchers' attention in terms of people's IT usage (i.e., adoption, searching strategies). An examination of relevant literature on the relationships of age, IT adoption traits and IT usage, age and IT usage therefore is warranted. In addition, some researchers have considered employing a need-based approach to facilitate understanding of travellers' online behaviours (Wang & Fesenmaier, 2004; Vogt & Fesenmaier, 1998).

Age, IT Adoption Traits & IT Usage

Researchers have found that stable situation-specific individual traits such as personal innovativeness in IT (Agarwal & Prasad, 1998) and dynamic situation-specific individual traits such as computer self-efficacy (Compeau & Higgins, 1995a; Czaja et al., 2006; Laguna & Babcock, 2000) and computer anxiety (Czaja et al., 2006; Laguna & Babcock, 2000) are related to people's adoption of IT. Before describing the relationship among these IT adoption traits, IT usage and age, it is necessary to define the relevant terms.

Definitions

Personal Innovativeness in Information Technology (PIIT): "the willingness of an

individual to try out any new information technology" (Agarwal & Prasad, 1998, p. 206).

Computer Self-Efficacy (CSE): individuals' judgment about their capabilities to perform computer-related tasks in different situations (Compeau & Higgins, 1995). People who have high CSE are more likely to have positive perceptions towards IT and more frequent use of IT (Compeau & Higgins, 1995).

Computer Anxiety (CA): "anxiety about the implications of computer use such as the loss of important data or fear of other possible mistakes" (Thatcher & Perrewe, 2002, p. 383).

Findings

Researchers have found that computer anxiety is negatively related to computer self-efficacy (Thatcher & Perrewe, 2002); that is, the higher CA an individual possesses, the lower CSE the person manifests. Thatcher and Perrewe (2002) also found that personal innovativeness in IT (PIIT) is positively related with CSE, while it is negatively related with CA. That is, the higher PIIT an individual possesses, the higher CSE the person manifests and the lower CA the person displays, and vice versa. More specific to IT usage, one concept is introduced, which is perceived ease of use. Perceived ease of use was defined as "the degree to which computer technology is perceived as relatively easy to understand and use" (Igbaria & Iivari, 1995, p. 595). Igbaria and Iivari (1995) found that CA is negatively correlated with perceived ease of use of IT, which directly influence people's IT usage; while CSE is positively correlated with perceived ease of use and thereby IT usage.

Whether age differences are related to these IT adoption traits has also drawn research attention. Czaja et al. (2006) pointed out that computer anxiety and computer self-efficacy would partially mediate age differences in technology adoption. Their study (the sample recruited 1,204 individuals ranging in age from 18-91) showed that the older adults (60-91 years) indicated more computer anxiety and lower computer self-efficacy than did younger (18-39 years) and middle-aged adults (40-59 years). Also, they reported that the middle-aged adult groups had lower computer self-efficacy and more computer anxiety than their younger counterpart. Laguna and Babcock (2000) had similar results from their study (the sample included 141 individuals aged 18 to 87) and concluded that age was positively correlated with computer anxiety and negatively correlated with computer self-efficacy. More specifically, older age is associated with lower computer self-efficacy and higher computer anxiety. In terms of PIIT, Agarwal, Sambamurthy and Stair (2000) indicated that people who are high in PIIT are more confident in their capability to use a new technology, which supported the findings from Thatcher and Perrewe (2002) in terms of the relationship between PIIT and CSE. Whether PIIT changes with a person's age or not, however needs to be explored further.

Age & IT Usage

The "Older Adults & IT" section provided an overview of older adults' IT usage, this section specifically addresses age influence issues in more detail.

Cohort Differences in IT Usage and Online Travel Information Search

Even though the computer market for people aged 50 and older is growing

(E-commerce News, 2000), one study conducted by Beldona (2005) found that the highest increase in Internet penetration and computer ownership is still in the youngest Generation X cohort (1961 - 1981) compared to the baby boomers and older adults cohorts (people aged 53 and older). However, the E-commerce News (2000) study results showed that people who are 45 to 60 years old use the Internet more than their college-age counterparts in terms of frequency, time, and level (i.e., check out more pages), which once again challenged the widely held belief that older people are technology laggards (at least in North America).

In terms of online travel information search, Beldona (2005) found that an age effect, which was defined as "changes caused by the natural aging process or any changes pertinent to the age characteristics of that cohort" (p. 136), does not exist among different age groups after employing both cross-sectional and longitudinal cohort analysis methods. However, the study did find a moderate cohort effect, which was defined as "change due to behaviour as a result of the inherent characteristics built around the experiences of the cohorts" (p. 136).

Age Differences in Online Information Search Strategies

As mentioned in the "Older Adults & IT" section, people usually engage in both internal and external information search for their trips. Peterson and Merino (2003) characterized external information search as consisting of "(1) prepurchase, goal-directed, or problem-solving activities, and (2) continuous, regular, general, or ongoing activities" (p. 102). As one external information source, the Internet also consists of similar information search strategies. Czaja and Lee (2003) suggested that

people usually tend to use a combination of analytic (goal-driven) and browsing (data-driven) strategies in searching the WWW. Analytic strategies are careful planned, goal driven, deterministic, formal and discrete, and are "most appropriate when information seeking is highly time sensitive" (Marchionini, 1995, p. 73) such as searching flight schedule. Browsing strategies are opportunistic, data driven, heuristic, informal and continuous, which depend on recognizing relevant information that is more interactive (Marchionini, 1995). For example, to gain a brief understanding about the destination, travellers might search general information such as culture, restaurant, and currency and so on. Usually, expert information seekers will employ analytic strategies, while novice information seekers will employ browsing strategies because they usually demand a smaller cognitive load at the beginning (Marchionini, 1995).

Some research suggested that people aged 61 to 85 are more likely to employ browsing strategies because they require longer reactions (Lin, 2003); and typically have some difficulty in acquiring new skills (Czaja & Lee, 2003) because analytical strategies are more difficult to learn than browsing strategies (Marchionini, 1995). Also these older adults generally may have less domain knowledge than their younger counterpart (Lin, 2003; Czaja & Lee, 2003). Nevertheless, Marchionini (1995) also found that people prefer using browsing strategies regardless of their age because they generally consider that analytical strategies are in general more difficult to learn. As Hardy and Baird (2003) suggested, skills can buffer the processing speed declines that are associated with aging. Once older adults master the analytical skills, whether age

will influence travellers' online information searching strategies has not been fully understood yet.

Even though browsing strategies are associated with novice information seekers and can cause distraction, confusion, frustration, and cognitive overload (Marchionini, 1995), browsing strategies are not always negative for Internet surfers. Hoffman and Novak (1996) suggested that Internet-based information search can be characterized as specific information search (extrinsically motivated, instrumental oriented, situational involvement, utilitarian benefits sought, goal-driven) and general information search (intrinsically motivated, ritualized oriented, enduring involvement, hedonic benefits sought, non-goal-directed). Browsing strategies have similar characteristics to general information search; therefore, it is reasonable to anticipate that people use browsing strategies to search general information and in order to meet their needs such as hedonic recreation or entertainment (Holbrook & Hirschman, 1982). This assumption is reasonable because browsing strategies are particularly effective for information that is interdisciplinary and when people try to gather overview information about a topic such as travel destinations (Marchionini, 1995). In a previous example, one study (E-commerce News, 2000) showed that people who are 45 – 60 years old used the Internet more than college-age counterparts in terms of frequency, time, and level. In this case, browsing strategies must have certain advantages that can meet their certain needs (psychological, social or hedonic needs). Therefore, whether age is related to travellers' different online information search strategies is an interesting topic to be further explored.

Travellers' Needs & Their IT Usage

Wang, Yu and Fesenmaier (2002) proposed a conceptual model to better understand online community member needs within the context of a travel community, introducing three different constructs – functional needs, social needs, and psychological needs. Wang and Fesenmaier (2004) further developed this model by adding one more important construct – hedonic needs to capture the entertainment and fun aspect of online experience. A brief review regarding these four constructs is provided below.

Functional needs: These needs are met when people conduct specific activities within the context of the Internet, including searching relevant product information such as flight information, identifying choices and making product-related decisions (Vogt & Fesenmaier, 1998; Wang & Fesenmaier, 2004). Functional needs are goal-driven and therefore crucial to information searching and decision making (Vogt & Fesenmaier, 1998).

Social needs: Travellers' social needs can be summarized as one word – communication (Wang & Fesenmaier, 2004). That is, people can use the Internet to communicate with anybody regardless of time and geography since one of the most widely recognized capabilities of the Internet is its interactivity (Peterson & Merino, 2003).

Psychological needs: Travellers' psychological needs can be met if they join an online travel community (Wang & Fesenmaier, 2004), which provides opportunities for travellers to meet people from all over the world and share their stories. In this case,

people will develop a sense of belonging, affiliation and make the community a part of their lives (Wang & Fesenmaier, 2004).

Hedonic needs: Travellers can be viewed as "pleasure seekers engaged in activities which elicit enjoyment, entertainment, amusement, and fun" when they participate in different kinds of online activities such as joining an online community, watching online travel videos, seeking relevant pictures and so on (Wang & Fesenmaier, 2004, p. 263).

More specifically focusing on online information search behaviours, Wang and Fesenmaier (2004) suggested that fulfilling travellers' functional needs is more related to concrete goal-oriented tasks such as looking for specific information. Analytical strategies are also goal-oriented, so it is reasonable to associate these kinds of online searching strategies to travellers' functional needs.

Wang and Fesenmaier (2004) also found that people's social, psychological, and hedonic needs are usually associated with interactive activities within the context of the Internet. Vogt and Fesenmaier (1998) supported this finding and believed that other needs such as hedonic needs do exist and are also important to the information search process. Furthermore, Vogt and Fesenmaier (1998) pointed out that one important aspect of hedonic needs is "searching and processing information as a leisure pursuit, a hobby, or an experiential form of entertainment and pleasure" (p. 558). These hedonic needs when associated with information searching strategies, particularly browsing strategies (general information search), reflect many similar characteristics such as intrinsic motivation, non-directed search, and hedonic benefits

sought.

When studying the relationship between age and different needs within the context of the Internet, Wang and Fesenmaier (2004) found that the younger groups (≤ 20, 21 to 30, and 31 to 40) attach greater importance to all four needs than their older counterparts (56 and older); however, another study found that hedonic needs increased with age (Vogt & Fesenmaier, 1998), which may reflect older travellers' high degree of travel experience (internal search preference) and use of the Internet to achieve fun, entertainment and enjoyment instead.

Purpose of Study

Based on the literature review a number of research gaps and questions can be identified to explore possible relationships among age, IT adoption traits, traveller needs, and IT usage in travel behaviour. The primary purpose of this study is to investigate how older adults use information and specifically information technology (IT) to plan and experience their vacations. More specifically, the study aims to explore the connections among age, IT adoption traits and travellers' information needs and how they may relate to travellers IT usage, including IT selection, frequency/level and information searching strategies. The review of related literature resulted in the development of a conceptual framework illustrated in Figure 1.

Research Questions

In the context of vacation planning behaviour and based on the conceptual framework, the main research question is:

How are age and IT adoption traits related to people's IT usage within the

context of vacation planning? More specifically:

(1) How is age related to:

(a) travellers' IT selection for vacation planning?

(b) travellers' IT usage in terms of frequency/level?

(c) travellers' information searching strategies (analytic-goal driven & browsing-data driven) in terms of online information searching behaviours?

(2) How are IT adoption traits related to:

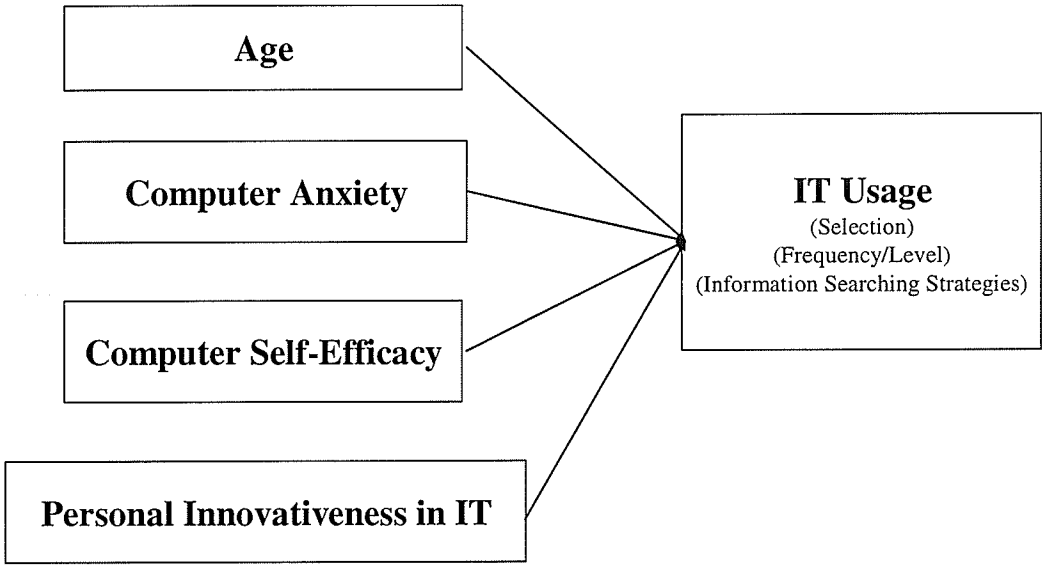
(a) travellers' IT selection for their vacations?

(b) travellers' usage in terms of frequency/level?

(c) travellers' information searching strategies (analytic-goal driven & browsing-data driven) in terms of online information searching behaviours?

The next chapter will outline the method used to address the research questions.

Figure 1: Conceptual Framework



Chapter III

Method

This exploratory study was designed to investigate the factors that are related to travellers' IT usage for their vacation planning. Since this study is part of the broad study – "Understanding the Impacts of Information Technology (IT) on the Vacation Experience", the method chapter includes sections that outline the research design, sampling, data collection that reflect the larger study, as well as measures and data analysis employed to meet the purpose of this specific study (Older Adults' Information Technology Usage and Travel Behaviours).

Research Design

A panel (longitudinal – over two years) survey research design with a self-administered questionnaire was used to gather the data. A panel study can help researchers gather information from the same sample over time, which has more explanatory power to keep track of respondents' attitude and behaviour changes (Fowler, 1993). Nevertheless, a panel study is more complex, time consuming, and costly than other research designs such as cross-sectional research (Fowler, 1993; Vogt & Stewart, 2001). The survey research design also followed procedures recommended by Dillman (2000), such as postage-paid return envelopes, incentive prizes, and reminders to participants.

Self-administered questionnaires enable respondents to complete the questions at their own pace and ensure confidentiality, which represents an important aspect of data collecting (Dillman, 2000). Nevertheless, one drawback with the

self-administered questionnaire is that some respondents try to complete the survey as quickly as possible without thinking about which answer they really want to choose, potentially guiding researchers to make an incorrect/inaccurate judgment (Dillman, 2000). For both the main study and this specific component, researchers developed questionnaires that ensure respondents spend fewer than 15 minutes to complete them, which may offset this negative aspect of the self-administered questionnaire.

Sample

The study employs a non-probability sample of Canadian leisure travellers. Participants were recruited from lists of individuals (e.g., phone and web travel information requesters) provided by a provincial tourism marketing agency, a provincial government tourism department, and Parks Canada (N = 1,026). These individuals who consented to be contacted for research purposes are residents of Canada and 18 years of age or older. After screening for the above residency and age requirements and cleaning the incomplete or incorrect addresses, a total of 732 possible participants received the initial questionnaire and were requested to be a panel member. Three hundred and thirty one (n=331) respondents completed the first survey in the fall of 2005, representing a response rate of 45%.

The non-probability sample is appropriate for the broad study because it is inexpensive and less time-consuming compared to probability sampling (Levy & Lemeshow, 1999). In addition, since the study does not attempt to make a precise statistical generalization to the larger population, employing the non-probability sample is a better way to gather people's viewpoints (Fowler, 1993). However,

common disadvantages of a non-probability sample include a lack of control for researcher bias in selecting subjects, and difficulty in predicting the pattern of variability (Singleton & Straits, 1999).

Data Collection

The study used a self-administered questionnaire to gather data. Informed consent was obtained by outlining the nature of the research (purpose of the research, research procedure, compensation, confidentiality and voluntary participation) when distributing the initial surveys and panel request form to participants.

In order to increase the response rate, this study involved two stages using a mixed-mode approach to distribute questionnaires: traditional mail survey (first questionnaire) and traditional mail and Internet survey (multiple follow-up questionnaires and/or vacation trip diaries administered at a predetermined time interval such as 3 – 4 months) (Dillman, 2000). In the first stage, the first questionnaire asked respondents questions regarding their travel behaviour, information search, IT use, and socio-demographic information (gender, education, income, marital status, and age) as well as their upcoming trips. By asking for respondents' email address, the second stage can thereby use these email addresses to distribute and receive the follow-up questionnaires/trip diaries, which partly saves the study cost. The traditional mail was still used for those people who did not provide their email addresses. In the second stage, quarterly monitoring questionnaires continue to ask respondents questions regarding their upcoming trips, information sources used (traditional and/or Internet), IT use and information searching strategies.

Within the context of the main study, this research is part of the quarterly monitoring questionnaire process, and will focus on specific, select questionnaire items.

Measures

Based on the research questions, age, IT adoption traits, and IT usage (selection, frequency/level, and information searching strategies) are the three sets of response variables of interest. Since this specific study (Older Adults' Information Technology Usage and Travel Behaviours) is part of the larger study, it is necessary to note that the question regarding age (one important factor related to travellers' IT usage) was embedded in the initial questionnaire as year of birth.

In terms of IT selection and usage, a series of open-ended and close-ended questions about their Internet experience have been incorporated into the monitoring questionnaire. The first question (Which of the following equipment/services do you currently have available to you?) provides a list of available information technologies such as cell phone, digital camera, desktop computer, laptop and so on. The second set of questions includes one filter question (In the past 4 months, have you used the Internet for personal and/or work reasons?). If respondents choose "yes", they are asked questions related to the Internet usage in terms of wireless Internet access, place, and frequency. If respondents select "no", they can skip to the next set of questions, which ask respondents' perception of their use of technology and the Internet as well as ownership of technology compared to their friends. These items are measured on a 7-point scale (1=low; 7=high).

Additional measures specific for this study (Older Adults' Information

Technology Usage and Travel Behaviours) were included to obtain information about respondents' online travel information searching strategies (analytical strategies and browsing strategies) and IT adoption traits such as computer anxiety, computer self-efficacy and personal innovativeness in information technology (PIIT). Based on previous measure development (Agarwal & Prasad, 1998; Compeau & Higgins, 1995; Heinssen, Glass, & Knight, 1987; Vogt & Fesenmaier, 1998), several closed-ended questions related to the research questions on IT adoption traits and information searching strategies are used in the monitoring questionnaire (see Appendix A) to gather the data.

The remaining response variables needed to operationalize the conceptual framework include: (1) computer anxiety (CA); (2) computer self-efficacy (CSE); (3) personal innovativeness in information technology (PIIT); and (4) online information searching strategies (analytical strategies and browsing strategies).

Computer anxiety (CA) was measured based on the Computer Anxiety Rating Scale developed by Heinssen et al. (1987), which includes the following four items in Table 1, rated on a 7-point agree-disagree scale. Compeau and Higgins (1995b) have considered these items as the best standard to measure computer-related anxiety because they have reported composite reliabilities ranging from of 0.92 (Compeau, Higgins, & Huff, 1999) to 0.87 (Compeau & Higgins, 1995b). In addition, Thatcher and Perrewe (2002) reported a composite reliability of 0.94 for their study.

Table 1: Computer Anxiety

1. I feel apprehensive about using computers.
2. It scares me to think that I could cause the computer to destroy a large amount of information by hitting the wrong key.
3. I hesitate to use a computer for fear of making mistakes that I cannot correct.
4. Computers are somewhat intimidating to me.

Note: Scale 1=Strongly Disagree; 7=Strongly Agree

Computer Self-Efficacy (CSE) was measured on a 10-point scale developed by Compeau and Higgins (1995), which includes 10 items assessing the magnitude and strength of respondents' ability to use an unfamiliar computer software package for work (see Table 2). These questions involve two steps: firstly, respondents indicate whether the statement is applicable to them or not; secondly, they assess their levels of confidence in the ability to perform tasks if they indicated the statement was applicable to them. When using this measure, researchers have reported reliabilities ranging from 0.95 (Compeau & Higgins, 1995a) to 0.91 (Agarwal & Karahanna, 2000). In addition, Thatcher and Perrewe (2002) reported a composite reliability of 0.93 for the CSE measure in their study. Since the context for this study is not work, the word "job" was changed to "task".

Table 2: Computer Self-Efficacy (CSE)

I COULD COMPLETE THE JOB USING THE SOFTWARE PACAKAGE...	
1. ...if there was no one around to tell me what to do as I go.	YES – Scale (1 - 10) NO
2. ...if I had never used a package like it before.	YES – Scale (1 - 10) NO
3. ...if I had only the software manuals for reference.	YES – Scale (1 - 10) NO
4. ...if I had seen someone else using it before trying it my self.	YES – Scale (1 - 10) NO
5. ...if I could call someone for help if I got stuck.	YES – Scale (1 - 10) NO
6. ...if someone else had helped me get started.	YES – Scale (1 - 10) NO
7. ...if I had a lot of time to complete the job for which the software was provided.	YES – Scale (1 - 10) NO
8. ...if I had just the built-in help facility for assistance.	YES – Scale (1 - 10) NO
9. ...if someone showed me how to do it first.	YES – Scale (1 - 10) NO
10. if I had used similar packages before this one to do the same job.	YES – Scale (1 - 10) NO

Note: Scale 1=Not at all confident; 5=Moderately confident; 10=Totally confident

Personal Innovativeness in Information Technology (PIIT) was measured on a 7-point scale developed by Agarwal and Prasad (1998), which includes four items assessing respondents' propensity to experiment with existing and new information technologies (see Table 3). Agarwal and Prasad (2000) reported a composite reliability of 0.87 for the scale.

Table 3: Personal Innovativeness in IT (PIIT)

1. If I heard about a new information technology, I would look for ways to experiment with it.
2. Among my peers, I am usually the first to try out new information technologies.
3. In general, I am hesitant to try out new information technologies.
4. I like to experiment with new information technologies.

Note: Scale 1=Strongly Disagree; 7=Strongly Agree

Online information searching strategies (analytical strategies and browsing strategies) were measured using a 7-point information need scale developed by Vogt and Fesenmaier (1998), which has a strong reliability coefficient (alpha = 0.82). Based on previous research, analytical strategies are more related to functional needs (Wang & Fesenmaier, 2004), while browsing strategies are more relevant to hedonic needs. Vogt and Fesenmaier's (1998) information need scale has corresponding items to address these two needs (see Table 4).

Table 4: Information Need Scale

F U N C T I O N A L	**Knowledge**:	
	1. Learn about unique events.	2. Be well-informed.
	3. Learn about prices.	4. Know about highlights
	Utility:	
	1. Find bargains.	2. Get a good deal
	Efficiency:	
	1. Locate information that is concise.	
	2. Be prepared for all aspects.	
	3. Locate best available information.	
	Uncertainty:	
	1. Reduce the likelihood of disaster.	
	2. Reduce likelihood of being disappointed.	
H E D O N I C:	**Emotional**:	
	1. Excite myself about travel.	
	2. Be entertained.	
	3. Excite myself with unique cultures	
	Sensory:	
	1. "Hear" the sounds of the ocean.	
	2. "Smell" the fresh air.	
	3. "Taste" those foods I discover.	
	Experiential:	
	1. Experience the local culture.	
	2. Realize experiences that I think about.	
	Phenomenology:	
	1. Understand the personality of a community.	
	2. Wonder about daily life of area.	

Note: Scale 1=Low; 7=High

Data Analysis

Quantitative data from close-ended questions were analyzed using SPSS 15.0 (Statistical Package of Social Science) in two stages to answer the research questions.

Firstly, descriptive statistics were run on all measures to describe respondents, including demographic variables derived from the initial questionnaire and the IT variables of interest in this study (i.e., equipment access, Internet usage, travel information search and purchase behaviours, perceptions of use of technology and the

Internet as well as ownership of technology compared to their friends). In addition, descriptive results of the scales for computer anxiety (CA), computer self-efficacy (CSE), personal innovativeness in information technology (PIIT) and information needs (online information searching strategies) are reported. Frequencies were calculated to show the distribution of these responses and obtain a brief profile of respondents, while means and standard deviations describe results of scale data.

Secondly, to address the research questions, analyses were conducted to test the relationships between study variables of interest based on the level of data. In addition, correlation was used to test the relationships among variables relevant to people's IT usage; for example, age and CA, CA and CSE, PIIT and CSE. More specifically, analyses were employed for each sub-question noted below.

For research question (1a) "How is age related to travellers' IT selection for vacation planning?", t-Tests analyses were used to analyze the relationships between age and type of IT used (i.e., cell phone, digital camera, PDA, laptop, desktop computer, GPS, IPod/MP3 and so on).

For research question (2a) "How are those IT adoption traits related to travellers' IT selection for their vacations?", t-Tests analyses were used to analyze the relationships between each of those IT adoption traits (i.e., CA, CSE, and PIIT) and type of IT used (i.e., cell phone, PDA, laptop, desktop computer, GPS, I-Pod/MP3/MP4, etc.).

For the research questions (1b) and (2b) (*how are age and those IT adoption traits related to travellers' IT usage in terms of frequency/level?*), multiple regression

was used to detect how age along with IT adoption traits (e.g., CA, CSE, and PIIT) are related to participants' frequency of IT use (*how often are you going online during a typical week?*) and level (number of select available IT equipment/services such as cell phone, PDA, laptop, desktop computer, GPS, IPod/MP3, etc.) respectively. The purpose of the multiple linear regression analyses was to understand the relative amount of contribution of each of those variables (age, CA, CSE, and PIIT) to the frequency and level of IT usage.

Similarly, for the research questions (1c) and (2c) (*how are age and those IT adoption traits related to travellers' information searching strategies in terms of online information searching behaviours?*), multiple linear regression was again used to investigate how age along with those IT adoption traits (e.g., CA, CSE, and PIIT) were related to participants' online information searching strategies (analytic-goal driven & browsing-data driven). That is, the regression analyses were used to understand the relative amount of contribution of each of those variables (age, CA, CSE, and PIIT) to the respondents' employment of online information searching strategies as measured by the information needs scales (e.g., functional and hedonic needs).

Chapter IV

Results

This chapter provides a detailed description of the results. Since the specific study was part of a lager study, the results are focused on select variables relevant to the research questions. Four sections are presented: 1) survey response; 2) respondent characteristics; 3) descriptive analysis of responses to the survey; and 4) analysis of results to address the research questions.

Survey Response

Questionnaires were distributed and returned during a ten-week period from early January to middle March in 2007. As mentioned in the last chapter, 331 Canadian leisure travellers responded to the initial questionnaire included in the larger study; however, some respondents decided not to continue participating in this study as a long-term panel member. As a result, 312 web and paper questionnaires were sent out and 222 were returned by the end of the ten-week period, representing a response rate of 71.2%. More specifically, 123 out of 168 web questionnaires were returned, representing a response rate of 73.2% and 99 out of 144 paper questionnaires were returned, representing a response rate of 68.8% in the paper format (see Table 5).

Table 5: Response Rate by Questionnaire Format

	Number Distributed	Number Returned	Response Rate
Web	168	123	73.2%
Paper	144	99	68.8%
Total	312	222	71.2%

Respondent Characteristics

More than half of the respondents were female (53.6%), and most of them were married/living common law (82.5%), followed by 17.5% who reported single status (see Table 6).

Table 6: Sex and Marital Status of Leisure Travellers

Variable	Percentage	n
Sex		
Male	46.4%	103
Female	53.6%	119
Total	100%	222
Marital Status		
Married/Living Common Law	82.5%	179
Single	17.5%	38
Total	100%	217

Table 7 displays the education levels for the Canadian leisure travel respondents. The majority of respondents (75.4%) have post secondary certificate/diploma and university degree(s), making this a highly educated group.

Table 7: Highest Education Level of Leisure Travellers

Education	Percentage	n
0 to 8 years	0.9%	2
Some secondary (high) school	3.3%	7
Graduated from high school	9.8%	21
Some post secondary	10.7%	23
Post secondary certificate/diploma	30.7%	66
University Degree(s)	44.7%	96
Total	100%	215

Employment status and total household income before taxes and deductions are presented in Table 8. Two-thirds of the respondents (66.2%) were employed full-time (48.5%) part-time (7.4%) or self-employed (10.3%), followed by 27.9% who were retired and 0.5% who were unemployed. In terms of household income, almost half of the respondents (48.6%) have $80,000 or over, making them a high income group.

Table 8: Employment Status and Income Levels of Leisure Travellers

Variable	Percentage	n
Employment Status		
Self-Employed	10.3%	21
Homemaker	3.4%	7
Unemployed	0.5%	1
Employed full-time	48.5%	99
Student	2.0%	4
Employed part-time	7.4%	15
Retired	27.9%	57
Total	100%	204
Household Income		
Less than $20,000	2.4%	5
$20,000 – 39,999	12.0%	25
$40,000 – 59,999	13.9%	29
$60,000 – 79,999	23.1%	48
$80,000 – 99,999	16.8%	35
$100,000 – 149,999	25.0%	52
$150,000 – 199,999	5.8%	12
$200,000 or more	1.0%	2
Total	100%	208

Table 9 displays the ages of respondents as of 2007. As mentioned above, the question regarding age was included in the initial questionnaire as year of birth, so a new variable, which was named NEWAGE, was created to compute the exact ages of respondents. About half of the respondents (47.3%) were 55 years old or older. Based on this distribution and for the purposes of this study, the term "older adults" will be used with the starting age of 55 +. Also, the average age for this group is 52.6 years old (SD = 13.3).

Table 9: Ages of Leisure Travellers

Age (years)	Percentage	n
Under 25	1%	2
25 – 34	9%	20
35 – 44	18.47%	41
45 – 54	24.32%	54
55 – 64	28.83%	64
65 – 74	14.41%	32
75 & over	4.1%	9
Total	100%	222

Descriptive Analysis of Responses to the Survey

Descriptive statistics were run on all measures to achieve a profile of Canadian leisure traveller respondents' IT usage and IT adoption. Specific comparison/analyses are in the section on results of the research questions.

Equipment/Services Available

Table 10 summarizes the equipment/services respondents currently have available to them at work and/or home. The majority of leisure travellers had a desktop computer (85.6%), digital camera (77.0%), and cell phone (62.9%).

Table 10: Equipment/Services Available to Leisure Travellers

Equipment/Services	n = 222	Percentage
Cellular phone with Internet access	53	23.9%
Cell phone with camera	65	29.3%
Cell phone	139	62.9%
Digital camera	171	77.0%
Pager	9	4.1%
Personal Digital Assistant (Palm Pilot, Blackberry) with Internet access	23	10.4%
Personal Digital Assistant	16	7.2%
Laptop computer with wireless access	76	34.2%
Laptop computer	47	21.2%
Desktop computer	190	85.6%
Global positioning system/GPS in vehicle	26	11.7%
On Star service in vehicle	9	4.1%
I-Pod/MP3/MP4 player	6	2.7%
None of the above	5	2.3%

IT Usage

Table 11 depicts the reasons for using the Internet and Internet usage in terms of wireless Internet access and place. Almost every respondent (96.8%) used the Internet for personal reasons; while more than 60 percent of respondents (65.8%) used the Internet for work reasons. No matter if they used the Internet for daily use or travel, less than a quarter of the respondents (22.1%) looked for wireless Internet access (*wi-fi*) in their daily use, while more than one-third (36.5%) of respondents looked for wireless Internet access when they travel.

Table 11:

Reasons for Using the Internet & Internet Usage (Wireless Access and Place)

	n = 222	Percentage
Internet use for personal reasons	215	96.8%
Internet use for work reasons	146	65.8%
Wireless Internet access daily	49	22.1%
Wireless Internet access when travelling	81	36.5%
Place	n = 222	Percentage
Home	207	93.2%
Work	123	55.4%
School	12	5.4%
Wireless laptop	59	26.6%
Cafe	21	9.5%
Public library	41	18.5%
A wireless hand-held device (Phone, PDA)	25	11.3%

Table 12 shows the frequency of going online during a typical week for Canadian leisure travellers. Two respondents indicated that they go online only once every two months and once per month respectively. More than 70 percent of respondents (71%) went online several times a day or more.

Table 12: Frequency of Going Online during a Week

Frequency (during a week)	n	Percentage
Other	2	0.9%
Less often	4	1.8%
1-2 days a week	17	7.8%
3-5 days a week	15	6.9%
About once a day	25	11.5%
Several times a day	97	44.7%
Continuously	57	26.3%
Total	217	100%

Table 13 shows the mean ratings for respondents' perception of their use of technology and the Internet as well as ownership of technology compared to their friends. More than 70 percent (73%) of respondents rated their use of technology as above average (M=4.38). Similarly, the majority of respondents (84.8%) rated their use of the Internet as above average (M=4.84) and three quarters of respondents (74%) considered their ownership of technology as above average (M=4.37) when compared to their friends. These results suggested that respondents in this study feel they have more access to technology and the Internet than average people around them.

Table 13: Perception of Technology and the Internet & Ownership of Technology

Variable	n	Mean	Median	SD
Use of technology	218	4.38	5.00	1.426
Use of the Internet	212	4.84	5.00	1.428
Ownership of technology	219	4.37	4.00	1.540

Note: SD = Standard Deviation

IT Adoption Traits

Respondents were asked to rate their own level of agreement about computer anxiety (CA) and personal innovativeness in IT (PIIT). As shown in Table 14, about half of the respondents (range from 41.1% to 54.8%) strongly disagreed that they had computer anxiety such as apprehension about using computers (M=2.10), being scared to destroy a large amount of information (M=2.20), hesitation to use a computer for fear of making mistakes (M=1.82), and computers being somewhat intimidating to them (M=2.09). These results suggest that respondents in this study are quite comfortable with using computers. In terms of personal innovativeness in IT, results showed more moderate levels of agreement. About 60 percent of respondents (59.5%) considered their levels of looking for ways to experiment with IT as medium or above (M=3.89). Less than half of the respondents (47.6%) who felt that they are usually the first to try out new information technologies rated themselves as medium or above (M=3.35). Similar to the questions regarding computer anxiety, over seventy percent of respondents (70.5%) who disagreed that they are hesitant to try out new information technologies rated themselves as below medium (M=2.84). Finally, about

sixty percent (59.9%) of respondents rated their levels of experimenting with new information technologies as medium or above (M=3.98).

Table 14: Frequency of Computer Anxiety & Personal Innovativeness in IT

Variable	n	Mean	Median	SD
Computer Anxiety				
Apprehensive	220	2.10	2.00	1.375
Scared	219	2.20	2.00	1.486
Hesitate	221	1.82	1.00	1.243
Intimidating	214	2.09	2.00	1.449
Personal Innovativeness in IT				
Look for ways to experiment with IT	220	3.89	4.00	1.652
The first to try out new ITs	218	3.35	3.00	1.704
Hesitant to try out new ITs	220	2.84	2.00	1.650
Like to experiment with new ITs	217	3.98	4.00	1.720

Note: SD = Standard Deviation

Computer self-efficacy was measured on a 10-point scale developed by Compeau and Higgins (1995). In this scale, 1 stands for "Not at all confident", 5 represents "Moderately confident", and 10 indicates "Totally confident". Respondents were asked to rate their levels of confidence in using a new software package when encountering 10 situations. As shown in Table 15, the means for each computer self-efficacy statement ranged from a low of 5.65 for the statement "if I had never used a package like it before" to a high of 7.49 for the statement of "if I had used similar packages before this one to do the same task". Four more statements received higher ratings, including "if I could call someone for help if I got stuck" (M=6.85), "if someone else had helped me get started" (M=6.96), "if I had a lot of time to complete the task for which the software was provided" (M=6.83), and "if someone showed me how to do it first" (M=7.18). It is obvious to see that receiving help from other people who know the new software well, sufficient time, and previous experience are important for respondents to have a higher level of confidence. Similarly, four more statements received lower ratings, including "if there is no one around to tell me what to do as I go" (M=5.96), "if I had only the software manuals for reference" (M=5.80), "if I had seen someone else using it before trying it myself" (M=6.20), and "if I had just the built-in help facility for assistance" (M=6.07). It is also evident to see that other people's help and previous experience play an important role in enhancing respondents' confidence. In terms of percentage, more than sixty-five percent of respondents rated their level of confidence for every item as moderately confident or above, ranging from a low of 66.8% to a high of 86.2%. Therefore, these results once

again suggested that respondents in this study are quite comfortable with using computers.

Table 15: Frequency of Computer Self-Efficacy

Variable	n	Mean	Median	SD
No one around to tell me what to do	193	5.96	6.00	2.338
Never use a package like it before	176	5.65	5.00	2.381
Have only the software manuals for reference	187	5.80	6.00	2.521
See someone else using it before trying it myself	200	6.20	6.00	2.428
Call someone for help if I got stuck	213	6.85	7.00	2.530
Someone else had helped me get started	210	6.96	7.00	2.447
Had a lot of time to complete the task	206	6.83	7.00	2.528
Had just the built-in facility for assistance	193	6.07	6.00	2.603
Someone showed me how to do it first	211	7.18	8.00	2.449
Used similar packages before	210	7.49	8.00	2.255

Note: SD = Standard Deviation

Information Needs (Information Searching Strategies)

Online information searching strategies (analytical strategies and browsing strategies) were measured using a 7-point information need scale developed by Vogt and Fesenmaier (1998). Based on previous research, analytical strategies are more related to functional needs (Wang & Fesenmaier, 2004), while browsing strategies are more relevant to hedonic needs. Respondents were asked to rate their levels of agreement based on a list of twenty-one reasons for searching travel information in general (see Table 16). These reasons reflected four categories of functional needs and four categories of hedonic needs respectively. More specifically, statements from the first to the eleventh represented these four categories of functional needs, including knowledge, utility, efficiency, and uncertainty; while statements from the twelfth to the twenty-first stood for the following four categories of hedonic needs – emotional, sensory, experiential and phenomenology (Vogt & Fesenmaier, 1998).

The means for each statement ranged from a low of 3.72 for the sensory category statement of hedonic needs "'hear' the sounds of the ocean" to a high of 6.01 for the knowledge category statement of functional needs "learn about prices". It is obvious to find that statements for functional needs usually received higher mean ratings than statements for hedonic needs. For functional needs, means for knowledge, utility and efficiency categories ranged from 5.36 to 6.01, while means for uncertainty category were slightly lower than other three categories (M=4.93 and M=5.14). For hedonic needs, means for emotional, experiential, and phenomenology categories ranged from 4.88 to 5.68, while means for sensory category were considerably lower

than other three categories (M=3.72, M=3.94 and M=4.08). In terms of percentage ratings, almost nobody chose "strongly disagree" for functional needs, while over eighty percent of respondents rated their levels of agreement for each statement of functional needs as medium or above, ranging from a low of 80.8% to a high of 98.1%. For hedonic needs, over eighty percent of respondents rated their levels of agreement for statements in emotional, experiential, and phenomenology categories as medium or above, ranging from a low of 83.7% to a high of 93.4%. Even though fewer respondents rated their levels of agreement for statements in the sensory category as high as other categories, over 50 percent of respondents considered their levels of agreement as medium or above.

Table 16: Frequency of Information Need

Variable	n	Mean	Median	SD
Functional				
Knowledge				
Learn about unique events	213	5.51	6.00	1.196
Be well-informed	212	5.96	6.00	1.039
Learn about prices	213	6.01	6.00	1.035
Know about highlights	208	5.76	6.00	1.107
Utility				
Find bargains	214	5.57	6.00	1.371
Get a good deal	213	5.67	6.00	1.219
Efficiency				
Locate information that is concise	213	5.56	6.00	1.138
Be prepared for all aspects	211	5.36	6.00	1.221
Locate best available information	216	5.76	6.00	1.097
Uncertainty				
Reduce the likelihood of disaster	213	4.93	5.00	1.633
Reduce likelihood of being disappointed	214	5.14	5.00	1.456

Variable	n	Mean	Median	SD
Hedonic				
Emotional				
Get excited about travel	211	5.68	6.00	1.291
Be entertained	215	4.93	5.00	1.409
Get excited about unique cultures	210	5.04	5.00	1.353
Sensory				
"Hear" the sounds of the ocean	211	3.72	4.00	1.979
"Smell" the fresh air	210	3.94	4.00	2.060
"Taste" those foods I discovered	212	4.08	4.00	1.914
Experiential				
Experience the local culture	210	5.04	5.00	1.496
Realize experiences that I think about	212	4.92	5.00	1.509
Phenomenology				
Understand the personality of a community	211	4.94	5.00	1.467
Wonder about daily life of area	215	4.88	5.00	1.441

Results of the Research Questions

Research question (1a): "how is age related to travellers' IT selection for vacation planning?"

T-Tests were conducted to analyze the relationships between age and type of IT used (e.g., cell phone, digital camera, PDA, laptop, desktop computer, GPS, IPod/MP3/MP4 players, etc.). As mentioned above, the question regarding age was embedded in the initial questionnaire as year of birth, so a new continuous variable, which was named NEWAGE, was created to compute the exact ages of respondents. Results in Table 17 showed significant differences did not exist for cell phone (t[220] = -.67, $p > .05$), pager (t[220] = -1.85, $p > .05$), laptop computer with wireless access (t[220] = -1.73, $p > .05$), desktop computer (t[36.87] = -.53, $p > .05$), global positioning system/GPS in vehicle (t[220] = -1.48, $p > .05$), and On Star service in vehicle (t[220] = 1.17, $p > .05$). That is, age differences were not found for access/use of these equipment/services.

On the other hand, results indicated significant differences among eight equipment/services, including cell phone with Internet access (t[220] = -2.14, $p < .05$), cell phone with camera (t[220] = -4.12, $p < .05$), digital camera (t[220] = -3.40, $p < .05$), personal digital assistant with Internet access (t[220] = -2.15, $p < .05$), personal digital assistant (t[220] = -2.20, $p < .05$), laptop computer (t[220] = -3.50, $p < .05$), I-Pod/MP3/MP4 player (t[220] = -6.67, $p < .05$), and none of the above (t[220] = -3.30, $p < .05$). More specifically, for the item "none of the above", respondents who chose "yes" were much older than those who chose "no". For the remaining

items, respondents who had those equipment/services available at work and/or home were relatively younger than those who did not, ranging from a low of 4 years younger to a high of 12 years. For example, respondents who have a cell phone with camera (M=46.94) were 7 years younger than those who did not (M=54.89).

Table 17: Relationships between Age and Type of IT Used

	Equipment/Services Used								
	Yes			No					
Variable	**n**	**Age M**	**Age SD**	**n**	**Age M**	**Age SD**	**t**	**d.f.**	***p.**
Cell phone with Internet access	53	49.17	11.74	169	53.62	13.66	-2.14	220	**.034**
Cell phone with camera	65	46.94	11.61	157	54.89	13.35	-4.12	220	**.000**
Cell phone	139	52.09	13.70	83	53.34	12.75	-.67	220	.503
Digital camera	171	50.94	12.72	51	58.00	14.04	-3.40	220	**.001**
Pager	9	44.56	16.10	213	52.90	13.42	-1.85	220	.066
Personal Digital Assistant with Internet access	23	46.96	10.02	199	53.21	13.54	-2.15	220	**.033**
PDA	16	45.56	12.96	206	53.10	13.24	-2.20	220	**.029**
Laptop with wireless access	76	50.42	13.38	146	53.67	13.23	-1.73	220	.085
Laptop computer	47	46.66	13.21	175	54.14	12.96	-3.50	220	**.001**
Desktop computer	190	52.32	12.62	32	54.00	17.15	-.53	36.87[a]	.598
Global positioning system /GPS in vehicle	26	48.92	12.55	196	53.04	13.39	-1.48	220	.139
On Star service in vehicle	9	57.67	11.16	213	52.34	13.40	1.17	220	.242
I-Pod/MP3/MP4 player	67	44.16	10.79	155	56.19	12.71	-6.76	220	**.000**
None of the above	5	71.60	8.25	217	52.12	13.12	-3.30	220	**.001**

Note: M = Mean; SD = Standard Deviation; *$p < .05$ (2-tailed); [a] = Equal variance not assumed

Research question (2a): "how are IT adoption traits related to travellers' IT selection for their vacations?"

T-Tests were used to analyze the relationships between each of those IT adoption traits (i.e., CA, CSE, and PIIT) and type of IT used (e.g., cell phone, PDA, laptop, desktop computer, GPS, I-Pod/MP3/MP4, etc.). Since the constructs of computer anxiety (CA), computer self-efficacy (CSE), and personal innovativeness in IT (PIIT) were measured based on several survey items, summated means were used for data analysis. The following three sections discuss the relationships between these constructs and type of IT used.

CA and Type of IT Used

The four survey items used to measure computer anxiety (see Table 1) had a summated mean of 2.03. Also, Cronbach's coefficient alpha was calculated to test the internal consistency reliability of the four-item scale, which was .867. This value was quite similar to the composite reliability reported by Compeau and Higgins (1995b) with a value of .87. Results in Table 18 displayed significant differences in computer anxiety between users and nonusers of cell phone with Internet access (t[110.15] = -2.52, $p < .05$), cell phone with camera (t[168.99] = -2.46, $p < .05$), digital camera (t[68.58] = -2.82, $p < .05$), personal digital assistant with Internet access (t[41.79] = -3.84, $p < .05$), laptop with wireless access (t[196.61] = -3.45, $p < .05$), laptop computer (t[84.37] = -2.10, $p < .05$), I-Pod/MP3/MP4 player (t[219] = -4.99, $p < .05$), and none of the above (t[219] = -2.47, $p < .05$). That is, respondents had certain levels of computer anxiety when they used these equipment/services. What is more,

respondents who did not have any of these equipment/services showed higher computer anxiety (M=3.44). It is interesting to find that respondents mainly showed computer anxiety for those equipment/services with Internet or wireless access. In sum, the overall CA scores were quite low, which indicated that respondents in this group are quite comfortable with using Information Technology.

Table 18: CA and Type of IT used

	Equipment/Services Used								
	Yes			No					
Variable	**n**	**CA M**	**CA SD**	**N**	**CA M**	**CA SD**	**t**	**d.f.**	***p.**
Cell phone with Internet access	53	1.72	.95	168	2.13	1.21	-2.52	110.15[a]	**.013**
Cell phone with camera	65	1.77	.88	156	2.14	1.25	-2.46	168.99[a]	**.034**
Cell phone	139	2.04	1.21	82	2.01	1.09	-.20	219	.843
Digital camera	171	1.90	1.08	50	2.48	1.34	-2.82	68.58[a]	**.006**
Pager	9	1.94	1.14	212	2.03	1.17	-.22	219	.824
Personal Digital Assistant with Internet access	23	1.48	.65	198	2.09	1.20	-3.84	41.79[a]	**.000**
Personal Digital Assistant	16	1.53	.84	205	2.07	1.18	-1.79	219	.076
Laptop with wireless access	76	1.70	.91	145	2.20	1.25	-3.45	196.61[a]	**.001**
Laptop computer	47	1.74	1.01	174	2.11	1.20	-2.10	84.37[a]	**.039**
Desktop computer	190	1.97	1.11	31	2.38	1.42	-1.81	219	.071
Global positioning system /GPS in vehicle	26	1.67	.91	195	2.08	1.19	-1.67	219	.097
On Star service in vehicle	9	1.94	1.16	212	2.03	1.17	-.22	219	.824
I-Pod/MP3/MP4 player	67	1.47	.71	154	2.27	1.24	-6.12	203.79[a]	**.000**
None of the above	4	3.44	1.96	217	2.00	1.14	-2.47	219	**.014**

Note: M = Mean; SD = Standard Deviation; $*p < .05$ (2-tailed); [a] = Equal variance not assumed
Scale 1 = Strongly Disagree, 7 = Strongly Agree

PIIT and Type of IT Used

Among the four survey items that measured personal innovativeness in IT (see Table 3), one item (*In general, I am hesitant to try out new information technologies*) was coded in an opposite direction. Researchers recoded this item into a new variable "Newhesitant", which was now in the same direction as the other three items. The four items were then summed producing a mean of 4.06. As well, Cronbach's coefficient alpha was calculated to test the internal consistency reliability, which was .820. This value was quite close to the composite reliability reported by Agarwal and Prasad (2000) with a value of .87. Results in Table 19 showed the significant differences in PIIT between users and nonusers of cell phone with Internet access ($t[219] = 3.77$, $p < .05$), cell phone with camera ($t[219] = 2.90$, $p < .05$), digital camera ($t[219] = 2.74$, $p < .05$), personal digital assistant with Internet access ($t[219] = 3.69$, $p < .05$), personal digital assistant ($t[219] = 3.55$, $p < .05$), laptop with wireless access ($t[219] = 2.92$, $p < .05$), global positioning system ($t[219] = 3.10$, $p < .05$), I-Pod/MP3/MP4 player ($t[219] = 3.63$, $p < .05$), and none of the above ($t[219] = -2.31$, $p < .05$). That is, respondents who used these equipment/services reflected higher level of personal innovativeness in IT except for the last one "none of the above". Respondents who did not have any of these equipment/services showed much lower level of personal innovativeness in IT (M = 2.50).

Table 19: PIIT and Type of IT used

	Equipment/Services Used								
	Yes			No					
Variable	**n**	**PIIT M**	**PIIT SD**	**N**	**PIIT M**	**PIIT SD**	**t**	**d.f.**	***p.**
Cell phone with Internet access	53	4.66	1.46	168	3.87	1.30	3.77	219	**.000**
Cell phone with camera	65	4.47	1.45	156	3.89	1.31	2.90	219	**.004**
Cell phone	139	4.09	1.35	82	4.00	1.43	.47	219	.640
Digital camera	171	4.19	1.36	50	3.60	1.34	2.74	219	**.007**
Pager	9	4.33	1.37	212	4.04	1.38	.62	219	.539
Personal Digital Assistant with Internet access	23	5.03	1.47	198	3.94	1.32	3.69	219	**.000**
Personal Digital Assistant	16	5.20	1.35	205	3.97	1.34	3.55	219	**.000**
Laptop with wireless access	76	4.42	1.35	145	3.86	1.35	2.92	219	**.004**
Laptop computer	47	4.08	1.31	174	4.05	1.40	.13	219	.897
Desktop computer	190	4.12	1.40	31	3.67	1.20	1.89	44.37[a]	.065
Global positioning system /GPS in vehicle	26	4.83	1.39	195	3.95	1.35	3.10	219	**.002**
On Star service in vehicle	9	4.06	1.29	212	4.06	1.38	-.002	219	.998
I-Pod/MP3/MP4 player	67	4.55	1.44	154	3.84	1.29	3.63	219	**.000**
None of the above	4	2.50	1.23	217	4.09	1.37	-2.30	219	**.022**

Note: M = Mean; SD = Standard Deviation; $*p < .05$ (2-tailed); [a] = Equal variance not assumed
Scale 1 = Strongly Disagree, 7 = Strongly Agree

CSE and Type of IT Used

A summated scale with a mean of 5.96 was calculated using the ten items (see Table 2) used to measure computer self-efficacy. Similar to the previous two constructs, Cronbach's coefficient alpha was calculated to test the internal consistency reliability, which was .962. This value was even higher than the composite reliability reported by Compeau and Higgins (1995a) at a value of .95. Results in Table 20 showed the significant differences in computer self-efficacy between users and nonusers of cell phone with Internet access ($t[102.90] = 5.63$, $p < .05$), cell phone with camera ($t[138.09] = 5.18$, $p < .05$), digital camera ($t[217] = 4.24$, $p < .05$), personal digital assistant with Internet access ($t[217] = 2.92$, $p < .05$), personal digital assistant ($t[217] = 2.90$, $p < .05$), laptop with wireless access ($t[217] = 3.37$, $p < .05$), global positioning system ($t[217] = 2.85$, $p < .05$), I-Pod/MP3/MP4 player ($t[151.72] = 8.15$, $p < .05$), and none of the above ($t[217] = -2.17$, $p < .05$). That is, respondents who used these equipment/services had higher levels of computer self-efficacy except for the last one "none of the above". Respondents who did not have any of these equipment/services showed a much lower level of computer self-efficacy (M = 3.30). It is interesting to see that the equipment/services for which respondents showing higher levels of computer self-efficacy were also the same equipment/services related to higher levels of PIIT.

Table 20: CSE and Type of IT used

	Equipment/Services Used								
	Yes			No					
Variable	**n**	**CSE M**	**CSE SD**	**N**	**CSE M**	**CSE SD**	**t**	**d.f.**	***p.**
Cell phone with Internet access	52	7.42	2.02	167	5.51	2.47	5.63	102.90[a]	**.000**
Cell phone with camera	64	7.17	2.10	155	5.46	2.49	5.18	138.09[a]	**.000**
Cell phone	138	6.06	2.51	81	5.79	2.50	.76	217	.447
Digital camera	169	6.34	2.35	50	4.69	2.62	4.24	217	**.000**
Pager	9	7.34	1.74	210	5.90	2.52	1.70	217	.091
Personal Digital Assistant with Internet access	23	7.38	2.25	196	5.80	2.48	2.92	217	**.004**
Personal Digital Assistant	16	7.68	2.01	203	5.83	2.49	2.90	217	**.004**
Laptop with wireless access	75	6.73	2.26	144	5.56	2.54	3.37	217	**.001**
Laptop computer	47	6.41	2.31	172	5.84	2.54	1.40	217	.164
Desktop computer	188	6.05	2.46	31	5.45	2.72	1.24	217	.215
Global positioning system /GPS in vehicle	26	7.25	2.10	193	5.79	2.51	2.85	217	**.005**
On Star service in vehicle	9	6.83	2.32	210	5.92	2.51	1.07	217	.287
I-Pod/MP3/MP4 player	66	7.68	1.90	153	5.22	2.36	8.15	151.72[a]	**.000**
None of the above	4	3.30	2.62	215	6.01	2.48	-2.17	217	**.031**

Note: M = Mean; SD = Standard Deviation; *$p < .05$ (2-tailed); [a] = Equal variance not assumed

Scale 1 = Not at all confident; 5 = Moderately confident; 10 = Totally confident

Research question (1b) and (2b): "how are age and IT adoption traits related to travellers' IT usage in terms of frequency/level?"

Multiple regression was used to detect how age along with IT adoption traits (e.g., CA, CSE, and PIIT) are related to participants' frequency of IT use (*how often are you going online during a typical week?*) and level (number of select available IT equipment/services such as cell phone, PDA, laptop, desktop computer, GPS, IPod/MP3, etc.) respectively. Therefore, two different multivariate models were constructed.

Age, CA, CSE, PIIT and Frequency of IT Use

Before constructing the multivariate model, bivariate analyses were used to detect the correlations between each explanatory variable (i.e., NEWAGE, CA, CSE, and PIIT) and frequency of IT use. To determine the strength of the relationship, Cohen (1988) suggested the following guidelines: r=.10 to .29 or r=-.10 to -.29 indicated small correlations, r=.30 to .49 or r=-.30 to -.49 indicated medium correlations, and r=.50 to 1.0 or r=-.50 to -1.0 indicated large correlations.

Results showed a small, negative correlation with age ($r = -.184$, $n = 217$, $p < .01$), with older age slightly associated with lower frequency of IT use; a medium, negative correlation with CA ($r = -.397$, $n = 217$, $p < .0005$), with higher levels of computer anxiety associated with lower frequency of IT use; a medium, positive correlation with PIIT ($r = .340$, $n = 217$, $p < .0005$), with higher levels of personal innovativeness in IT associated with higher frequency of IT use; and a medium, positive correlation with CSE ($r = .344$, $n = 215$, $p < .0005$), with higher levels of

computer self-efficacy associated with higher frequency of IT use.

To meet the assumption of multiple regression that correlations between explanatory variables are low, correlation was used to test the relationships among the four explanatory variables (i.e., NEWAGE, CA, CSE, and PIIT). Table 21 shows that correlations between CSE and NEWAGE, CSE and CA, CSE and PIIT, and CA and PIIT were medium or large based on Cohen (1988) (-.455, -.473, .525, and -.436 respectively). However, Tabachnick and Fidell (1996) suggested that researchers should "think carefully before including two variables with a bivariate correlation of, say, .7 or more in the same analysis" (p. 86). Field (2000) also pointed out that if any explanatory variables correlate very highly (i.e., correlations are above .8 and .9), multicollinearity might exist. In this study, the correlations were less than .7; so all variables were retained for the analysis. Moreover, after running the multiple regression on SPSS, the table labelled "Coefficients" provided collinearity statistics to detect multicollinearity, including "Tolerance" and "VIF" (Variance Inflation Factor). Gaur and Gaur (2006) suggested that "a value of VIF higher than five (or Tolerance less than .2) indicates the presence of multicollinearity" (p. 116). The tolerance values for the four explanatory variables in this question ranged from .543 to .788; therefore, no multicollinearity was detected.

Table 22 displayed that R for regression was significantly different from zero, $F(4, 210) = 13.654$, $p < .001$. Two of the explanatory variables, which contributed significantly to the prediction of frequency of IT use, were computer anxiety and personal innovativeness in IT. Compared to personal innovativeness in IT (beta

= .156), computer anxiety (beta = -.264) had more influence on frequency of IT use. Age did not play an important role in predicting respondents' frequency of IT use. Although this result did not correspond to the result in bivariate analysis, it reflected that age only has minor influence on frequency of IT use ($r = -.184$, $n = 217$, $p < .01$). However, it was surprising to see that computer self-efficacy did not have a statistically significant effect on predicting respondents' frequency of IT use, which contradicted the significant bivariate relationship in previous analysis. Altogether, 20.6% (19.1% adjusted) of the variability in frequency of IT use was predicted by knowing scores on these four explanatory variables.

Table 21: Correlations among NEWAGE, CA, CSE, and PIIT

Measures	1 (n)	2 (n)	3 (n)
(1) NEWAGE			
(2) CA	.218* (221)		
(3) CSE	-.455* (219)	-.473* (218)	
(4) PIIT	-.178* (221)	-.436* (221)	.525* (218)

Note: CA = Computer Anxiety; CSE = Computer Self-Efficacy; PIIT = Personal Innovativeness in IT; * $p < .01$

Table 22: Determinants of Explanatory Variables for Frequency of IT Use

Explanatory Variables	B	β
NEWAGE	-.005	-.046
CA	-.302**	-.264**
CSE	.062	.117
PIIT	.150*	.156*
(Constant)	4.526	
R/R^2 /adjusted R^2	.454/.206/.191	

Note: * Significant at $p < .05$; ** Significant at $p < .0005$

Age, CA, CSE, PIIT and Level of IT Use

To measure respondents' level of IT usage, the total number of selected IT equipment/services such as cell phone, PDA, laptop, desktop computer, GPS, IPod/MP3, etc was calculated performing the SPSS "count" function. As a result, a new variable "Level" was executed. Similar to the previous model, bivariate analyses were conducted to investigate the correlations between each explanatory variable (i.e., NEWAGE, CA, CSE, and PIIT) and level of IT use. Analyses reflected a medium, negative correlation with age ($r = -.395$, $n = 222$, $p < .0005$), with older age associated with lower levels of IT use; a medium, negative correlation with CA ($r = -.345$, $n = 221$, $p < .0005$), with higher levels of computer anxiety associated with lower levels of IT use; a medium, positive correlation with PIIT ($r = .381$, $n = 221$, $p < .0005$), with higher levels of personal innovativeness in IT associated with higher levels of IT use; and a large, positive correlation with CSE ($r = .526$, $n = 219$, $p < .0005$), with higher levels of computer self-efficacy associated with higher levels of IT use.

To meet the assumption for multiple regression that correlations between explanatory variables are low, correlation was used again to test the relationships among the four explanatory variables (i.e., NEWAGE, CA, CSE, and PIIT). This model still used the same results displayed in Table 21 and retained the four variables.

Table 23 displays a significant regression equation, $F(4, 213) = 26.466$, $p < .001$. Three of the explanatory variables contributed significantly to the prediction of frequency of IT use. These were age (beta = -.206), personal innovativeness in IT (beta = .139) and computer self-efficacy (beta = .317). Altogether, 33.2% (31.9%

adjusted) of the variability in levels of IT use was predicted by knowing scores on these four explanatory variables.

Table 23: Determinants of Explanatory Variables for Level of IT Use

Explanatory Variables	B	β
NEWAGE	-.026*	-.206*
CA	-.146	-.090
CSE	.240**	.317**
PIIT	.191*	.139*
(Constant)	3.665	
R/R^2 /adjusted R^2	.576/.332/.319	

Note: * Significant at $p < .05$; ** Significant at $p < .0005$

Research question (1c) and (2c): "how are age and IT adoption traits related to travellers' information searching strategies in terms of online information searching behaviours?"

Multiple linear regression was again used to investigate how age along with those IT adoption traits (e.g., CA, CSE, and PIIT) were related to participants' online information searching strategies (analytic-goal driven and browsing-data driven). Because the two different searching strategies were measured using two sets of information needs items (i.e., functional and hedonic needs), it is reasonable to generate more inclusive concepts by employing data reduction method. Two new variables, which were coded as Functional and Hedonic, were created. Correspondingly, two different multivariate models were constructed.

Age, CA, CSE, PIIT and Functional Needs(analytic-goal driven)

Eleven survey items that were used to measure functional needs (see Table 4) were summed to make a summated scale, which had a mean of 5.46. Also, Cronbach's coefficient alpha was calculated to test the internal consistency reliability, which was .865. This value was higher than the composite reliability reported by Vogt and Fesenmaier (1998) with a value of .82.

Before constructing the multivariate model, bivariate analyses were used to detect the correlations between each explanatory variable (i.e., NEWAGE, CA, CSE, and PIIT) and analytic searching strategies (functional). Results showed a small, negative correlation with age ($r = -.137$, $n = 217$, $p < .05$), with older age slightly associated with lower employment of analytical strategies; a small, positive

correlation with PIIT (r = .138, n = 217, $p < .05$), with higher levels of personal innovativeness in IT slightly associated with higher application of analytical strategies; and a small, positive correlation with CSE (r = .242, n = 214, $p < .0005$), with higher levels of computer self-efficacy associated with higher employment of analytical strategies. No correlation was found between computer anxiety and analytical searching strategies, however. Three explanatory variables (i.e., NEWAGE, PIIT, and CSE) were used to construct the model.

To meet the assumption of multiple regression that correlations between explanatory variables are low, correlation was used again to test the relationships among the three explanatory variables (i.e., NEWAGE, CSE, and PIIT). This model still used the same results displayed in Table 21 and retained the three variables.

Table 24 displayed that R for regression was significantly different from zero, $F(3, 210) = 4.435$, $p < .005$. The only one of the explanatory variables that contributed significantly to the prediction of employing of analytical search strategies, was computer self-efficacy (beta = .216). Personal innovativeness in IT (beta = .018) and NEWAGE (beta = -.035) did not make a contribution in predicting respondents' employment of analytical strategies, which contradicted with the significant bivariate relationship showed in previous analysis. But when comparing their r values (r = -.137, n = 217, $p < .05$; r = .138, n = 217, $p < .05$), the results were predictable. Altogether, only 6% (4.6% adjusted) of the variability in employment of analytical strategies was predicted by knowing scores on these three explanatory variables.

Table 24: Determinants of Explanatory Variables for Analytical Strategies

Explanatory Variables	B	β
NEWAGE	-.003	-.035
CSE	.081*	.216*
PIIT	.013	.018
(Constant)	5.054	
R/R^2 /adjusted R^2	.244/.060/.046	

Note: * Significant at $p < .05$

Age, CA, CSE, PIIT and Hedonic Needs (browsing-data driven)

Ten survey items that were used to measure hedonic needs (see Table 4) were summed to make a summated scale, which had a mean of 4.60. Also, Cronbach's coefficient alpha was calculated to be .903. This value was higher than the composite reliability reported by Vogt and Fesenmaier (1998) with a value of .82.

Before constructing the multivariate model, bivariate analyses were used to detect the correlations between each explanatory variable (i.e., NEWAGE, CA, CSE, and PIIT) and browsing searching strategies (hedonic). Surprisingly, results only showed one small, positive correlation between hedonic search and CA ($r = .172$, $n = 217$, $p < .05$), with higher computer anxiety slightly associated with higher employment of browsing strategies. The remaining three variables showed no correlation with respondents' employment of browsing searching strategies. As a result, the multivariate model cannot be constructed.

Chapter V

Discussion

The purpose of this study was to investigate how older adults use information and specifically information technology to plan and experience their vacations. More specifically, it explored the connections among age, IT adoption traits and travellers' information needs and how they may relate to travellers IT usage, including IT selection, frequency/level and information searching strategies. In this chapter, findings are discussed in relation to the research questions and the existing literature.

Profile of Canadian Leisure Travellers

Results of this study indicate that respondents in this group are middle-aged (M = 52.3, SD = 13.3), which corresponds to previous literature that future older adults (i.e., baby boomers) represent a significant tourism market growth potential (McDougall, 1998). Also, about half of the respondents (47.3%) are 55 years old and older, further stressing older travellers will account for a significant proportion of the overall travel market (McDougall, 1998).

In this study, Canadian leisure travellers with post secondary certificate/diploma and university degree(s) comprised 75.4% of the sample, while almost half of the respondents (48.6%) reported income levels of $80,000 or over. Previous literature has consistently reported baby boomers' higher education and income levels are two factors that positively correlate with travel (McDougall, 1998, Van Harssel, 1995). This study reinforces these findings.

This study also indicates a gender difference in the proportion of Canadian

leisure travellers – 53.6% were female, while 46.4% were male. Even though Luo, Feng, and Cai (2004) suggested that male tourists with higher household incomes are more likely to be the Internet users, whether gender will influence people's IT usage and online information searching strategies is not relevant to this study.

Age & IT Selection

The first research question (1a) explored in this study is related to age and travellers' IT selection for vacation planning. Results suggest that age differences do exist in some IT equipment/services, including cell phone with Internet access, cell phone with camera, digital camera, personal digital assistant with Internet access, personal digital assistant, laptop computer, and I-Pod/MP3/MP4 player. Respondents who have those equipment/services available at work and/or at home are relatively younger than those who do not. For those respondents who do not access to any of the listed equipment/services, they are almost 20 years older than those who access at least one equipment/service (M = 71.6 and M = 52.12 respectively). It is obvious to see that equipment/services mentioned above represent the latest technology development; namely, technological convergence (Weithner & Klein, 1999). Previous studies suggested that new information technologies are so technologically advanced that they pose technical barriers to people aged 65 and older (Rogers & Fisk, 2003) and psychosocial barriers to people aged 50 and older (Leavengood, 2001). That is, a digital divide still exists for older people. These findings are reinforced by this study. It is interesting to find that age significant differences did not appear in access to laptop computer with wireless access, which partly contradicted the literature.

IT Adoption Traits & IT Selection

The research question (2a) investigated in this study focussed on the relationships between each of those IT adoption traits (i.e., CA, CSE, and PIIT) and type of IT used.

CA and Type of IT Used

Results show that respondents have a certain level of computer anxiety when they use cell phone with Internet access, cell phone with camera, digital camera, personal digital assistant with Internet access, laptop with wireless access, laptop computer, and I-Pod/MP3/MP4 player or do not use any of the listed equipment/services. These types of equipment/services represent the latest computer development (Weithner & Klein, 1999). Wireless equipment/services, in particular, reflect that "access" has become the new product, which enables people to access the information and receive services anytime from anywhere (ITAC, 2003b). Compared to other equipment/services, people usually consider these equipment/services as more advanced and complicated. These results suggest that the lower level of perceived ease of use of these latest IT equipment/services increases people's computer anxiety, which is supported by the findings suggested by Igbaria and Iivari (1995) that CA is negatively correlated with perceived ease of use of IT and thereby IT usage.

CSE and Type of IT Used

Results show that respondents who have access to a cell phone with Internet access, cell phone with camera, digital camera, personal digital assistant with Internet

access, personal digital assistant, laptop with wireless access, global positioning system and I-Pod/MP3/MP4 player have a higher level of computer self-efficacy than those who do not. Respondents who do not have any of the listed equipment/services show a much lower level of computer self-efficacy. It is interesting to see that most equipment/services for which respondents showed computer self-efficacy are also the equipment/services related to computer anxiety levels. These results are reasonable, however, because respondents who have higher computer self-efficacy usually have positive perception on IT, which is supported by Igbaria and Iivari (1995) that CSE is positively correlated with perceived ease of use and thereby IT usage. In turn, using more advanced and complicated IT equipment/services enhance people's CSE and decrease their CA, which is supported by Thatcher and Perrewe (2002) that computer anxiety is negatively related to computer self-efficacy.

PIIT and Type of IT Used

Results show that respondents who have access to a cell phone with Internet access, cell phone with camera, digital camera, personal digital assistant with Internet access, personal digital assistant, laptop with wireless access, global positioning system and I-Pod/MP3/MP4 player show a higher level of personal innovativeness in IT than those who do not. Respondents who do not have any of the listed equipment/services show a much lower level of personal innovativeness in IT. Similar to computer self-efficacy, respondents chose the same types of equipment/services. These findings are also supported by Thatcher and Perrewe (2002) that personal innovativeness in IT (PIIT) is positively related with CSE, while it is negatively

related with CA.

Age, IT Adoption Traits & IT Usage

The research questions (1b) and (2b) (*how are age and IT adoption traits related to travellers' IT usage in terms of frequency/level?*) investigated the relative amount of contribution of each of those explanatory variables (i.e., age, CA, CSE, and PIIT) to the frequency and level of IT usage.

Age, CA, CSE, PIIT & Frequency of IT use

Before constructing the multivariate model, correlations between explanatory variables were tested using correlation function of SPSS 15.0. Results show correlations for all four variables, including CSE and age, CSE and CA, CSE and PIIT, CA and PIIT, CA and age, and age and PIIT (-.455, -.473, .525, -.436, .218, and -.178 respectively). As mentioned above, previous literature had similar findings for correlations between CSE and CA, CSE and PIIT, and CA and PIIT (Thatcher & Perrewe, 2002). For correlations between CSE and age and CA and age, two studies conducted by Czaja et al. (2006) and Laguna and Babcock (2000) concluded that older age is associated with lower computer self-efficacy and higher computer anxiety, which is supported again by this study. Results also display a negative correlation between age and PIIT; that is, the older a person is, the lower PIIT the person manifests. It is important to point out that age only has small correlations with CA and PIIT based on Cohen (1988).

In the multivariate model, when considering the four explanatory variables together, the CA variable (beta = -.264) has the strongest influence on respondents'

frequency of IT use, which is consistent with the previous finding that CA is negatively correlated with usage (Igbaria & Iivari, 1995). This result is understandable because the more frequent one person uses IT, the more comfortable he/she feel, the less computer anxiety he/she has, and vice versa.

The personal innovativeness in IT variable (beta = .156) also has influence on respondents' frequency of IT use, which is consistent with the findings in literature that people who are high in personal innovativeness in IT are more likely to use information technologies (Agrwal et al., 2000).

With a beta value of only -.046, age had only a marginal and non-significant effect on respondents' frequency of IT use. Based on the results from descriptive analysis, 71% of respondents went online several times a day or more. Referring back to the literature, Filipczak (1998) pointed out the computer market for adults who are 65 years old or above is growing. As well, a report from ITAC (2003a) stressed that in Canada, the 55 + age group underwent an over 50 percent growth in Internet use, becoming the fastest growing age segment of users. Also, the report mentioned that people who are 65 years old and over and people who are 55 to 64 years old account for 14 percent and 25 percent of all Canadian Internet users respectively. Therefore, results of this study support the trend and indicate that age is becoming a much less important factor to predict people's frequency of IT use.

Surprisingly, contrary to significant bivariate relationships between CA and frequency of IT use, computer self-efficacy (beta = .117) did not have a statistically significant effect on respondents' frequency of IT use, which is inconsistent with

previous studies (Compeau et al., 1999; Igbaria & Iivari, 1995).

Age, CA, CSE, PIIT & Level of IT use

In this multivariate model, the computer self-efficacy variable (beta = .317) has the strongest influence on respondents' level of IT use. As mentioned in the previous chapter, respondents' level of IT use was measured counting the total number of selected IT equipment/services. This result suggests that the higher level of CSE one person has, the more likely he/she uses different equipment/services. It is reasonable because respondents who have higher computer self-efficacy usually have positive perceptions of IT, which is supported by Igbaria and Iivari (1995) that CSE is positively correlated with perceived ease of use and thereby IT usage.

With a beta value of .139, the PIIT variable also contributed to respondents' level of IT use. This result is consistent with the literature that people who are high in PIIT are more confident in their capability to use a new technology (Agarwal et al., 2000). As mentioned above, all the equipment/services included in this study represent the latest information technology development, so people who demonstrate higher level of PIIT are more likely to try different equipment/services.

The age variable (beta = -.206) was found to be negatively related to respondents' level of IT use. That is, the older one person is, the more likely he/she uses fewer equipment/services than his/her younger counterpart. The literature mentioned that costs of a computer and the Internet have been cited by some adults aged 60 and older who cannot afford the expense of buying a computer and pay a monthly fee to get access to the Internet (Selwyn, 2004). Although respondents in this

study represent a higher household income group, most North Americans use the Internet from their employers or educational institutions (Rogers, 2003). Therefore, after retirement, many adults do not have the same level of income and place to support their access to IT or they may have lacked exposure in the workplace (Selwyn, 2004). When taking other factors into account, such as technical barriers (Czaja & Lee, 2003; Grodsky & Gilbert, 1998; Morrell, Dailey, & Rousseau, 2003; Rogers & Fisk, 2003), biophysical barriers (Filipczak, 1998; Hardy & Baird, 2003; Morrell et al., 2003) and psychosocial barriers (Leavengood, 2001; Selwyn, 2004), age can have a negative impact on people's level of IT usage.

Computer anxiety (beta = -.09) in this model only had a marginal, negative and non-significant effect on people's level of IT usage. This result contradicts previous finding that CA is negatively correlated with perceived ease of use of IT, which directly influences people's IT usage (Igbaria & Iivari, 1995).

Age, IT Adoption Traits & Information Searching Strategies

The research questions (1c) and (2c) (*how are age and IT adoption traits related to travellers' information searching strategies in terms of online information searching behaviours?*) investigated the relative amount of contribution of each of those explanatory variables (i.e., age, CA, CSE, and PIIT) to the respondents' employment of online information searching strategies as measured by the information needs scales (i.e., functional needs and hedonic needs).

Age, CA, CSE, PIIT and Functional Needs (analytic-goal driven)

As mentioned in the "Results" chapter, no correlation was found between

computer anxiety and analytical searching strategies. Because analytical searching strategies usually require information seekers to possess a much higher level of information search and computer skills (Marchionini, 1995), it is obvious to see that people who possess advanced skills are less likely to have computer anxiety.

Three explanatory variables (i.e., age, PIIT, and CSE) therefore were used to construct the multivariate model. The result shows that computer self-efficacy (beta = .216) was the only explanatory variable contributing to predict respondents' employment of analytical searching strategies. Similar to the explanation for computer anxiety, people who possess advanced information searching and computer skills are more likely to have higher levels of computer self-efficacy. People who have higher levels of CSE have more confidence about their capabilities to use advanced information searching and computer skills in different situations.

The PIIT variable (beta = .018) almost had no effect on respondents' employment of analytical searching strategies. Because PIIT is highly correlated with computer self-efficacy ($r = .525$, $n = 218$, $p < .01$), the reason why PIIT did not affect respondent's choice of using analytical searching strategies is unknown. However, it might be partially due to the fact that PIIT is "the willingness of an individual to try out any new information technology" (Agarwal & Prasad, 1998, p. 206) rather than individuals' judgment about their capabilities to perform computer-related tasks in different situations (Compeau & Higgins, 1995). That is, people who use analytical searching strategies are the people who are experienced IT users.

With a low beta value of -.035, age only had a negative and non-significant

effect on respondents' employment of analytical searching strategies. This result could be partially explained by findings from Hardy and Baird (2003) that skills can buffer the processing speed declines that are associated with aging. Once people master the analytical information searching skills, age will not be a critical factor that determines travellers' choice of online information searching strategies.

Age, CA, CSE, PIIT and Hedonic Needs (browsing-data driven)

In the "Results" chapter, bivariate analyses detected only one small, positive correlation between computer anxiety and browsing information searching strategies ($r = .172$, $n = 217$, $p < .05$). That is, respondents who demonstrate higher levels of computer anxiety are more likely to employ browsing information searching strategies. This result is inconsistent with the findings from Marchionini (1995) that novice information seekers will use browsing search strategies due to its smaller cognitive load (less computer anxiety) at the beginning. However, it could be partially due to the fact that respondents considered analytical strategies as more advanced and difficult skills, which increase their levels of anxiety; so they decided to employ browsing searching strategies instead. That is, the computer anxiety originating from analytical searching strategies increase respondents' possibility of using browsing strategies. It could also be explained by the fact that browsing strategies are associated with novice information seekers and can cause distraction, confusion, frustration, and cognitive overload after they browse the web for a while (Marchionini, 1995). At this point, the result supports the previous literature.

The remaining three variables showed no correlations with respondents'

employment of browsing searching strategies. Contradictory findings in the literature have been found regarding the age variable. Some research suggested that people aged 61 to 85 are more likely to employ browsing strategies because they require longer reactions (Lin, 2003); and typically have some difficulty in acquiring new skills (Czaja & Lee, 2003) because analytical strategies are more difficult to learn than browsing strategies (Marchionini, 1995). Also, another study found that hedonic needs, which are associated with browsing searching strategies, increased with age (Vogt & Fesenmaier, 1998). Nevertheless, Marchionini (1995) also found that people prefer using browsing strategies regardless of their age because they generally consider that analytical strategies are more difficult to learn.

For the CSE variable, defined as individuals' judgment about their capabilities to perform computer-related tasks in different situations (Compeau & Higgins, 1995), it is more relevant to analytic strategies that are goal driven, deterministic, formal and discrete (Marchionini, 1995). Browsing searching strategies are opportunistic, data driven, heuristic, informal and continuous (Marchionini, 1995), which is more related to people's hedonic needs (Vogt & Fesenmaier, 1998). Therefore, CSE is not related to browsing searching strategies.

For the PIIT variable, based on the definition, it is more related to trying out any new information technology rather than choosing online information searching strategies. That is, people who employ any online information searching strategies are the people who are already using the information technologies. Thus, PIIT is not related to browsing searching strategies.

Chapter VI

Conclusion

Past research regarding tourism and IT did not pay enough attention to travellers' online information searching behaviours, especially to older travellers (Buhalis, 2003; Weber & Roehl, 1999). This study has partially filled that research gap and added to the knowledge base of travel information search literature by expanding it to include this increasing population. Also, this study has provided important information to help understand the factors that influence older adults' IT usage for their vacations. More specifically, this study has identified whether age and IT adoption traits (i.e., CA, CSE, and PIIT) have joint or separate influence on travellers' IT selection, IT usage (i.e., frequency and level) and information searching strategies (i.e., analytical and browsing). This chapter will list research conclusions from this study, followed by a discussion of the study implications, limitations and future research in this area. As a result, this can contribute to researchers' and practitioners' in the field of tourism and IT understanding of how to improve their services when encountering older customers.

Research Conclusions

Five main conclusions were drawn from this study.

1. Canadian leisure travellers in this study are middle-aged (M = 52.3, SD = 13.3), and have higher education and income levels. It is important to mention that almost half of the total respondents (47.3%)aged 55 years old and over, further stressing older travellers will account for a significant proportion of the overall

travel market (McDougall, 1998).

2. Age and three IT adoption traits are important indicators for predicting Canadian leisure travellers' selection of certain IT equipment/services, especially those latest technologically advanced equipment/services. Older travellers were less likely to use the more advanced IT equipment/services. Therefore, the digital divide still exists for older people. Table 25 lists these equipment/services to facilitate researchers and practitioners in the field of tourism and IT understanding what kind of equipment/services are affected by age and IT adoption traits. For example, travellers who were younger, have lower levels of computer anxiety, higher levels of computer self-efficacy and personal innovativeness in IT were more likely to use equipment/services such as cell phone with Internet access, cell phone with camera, digital camera, PDA with Internet access and I-Pod/MP3.

Table 25: Age, IT adoption Traits and Equipment/Services

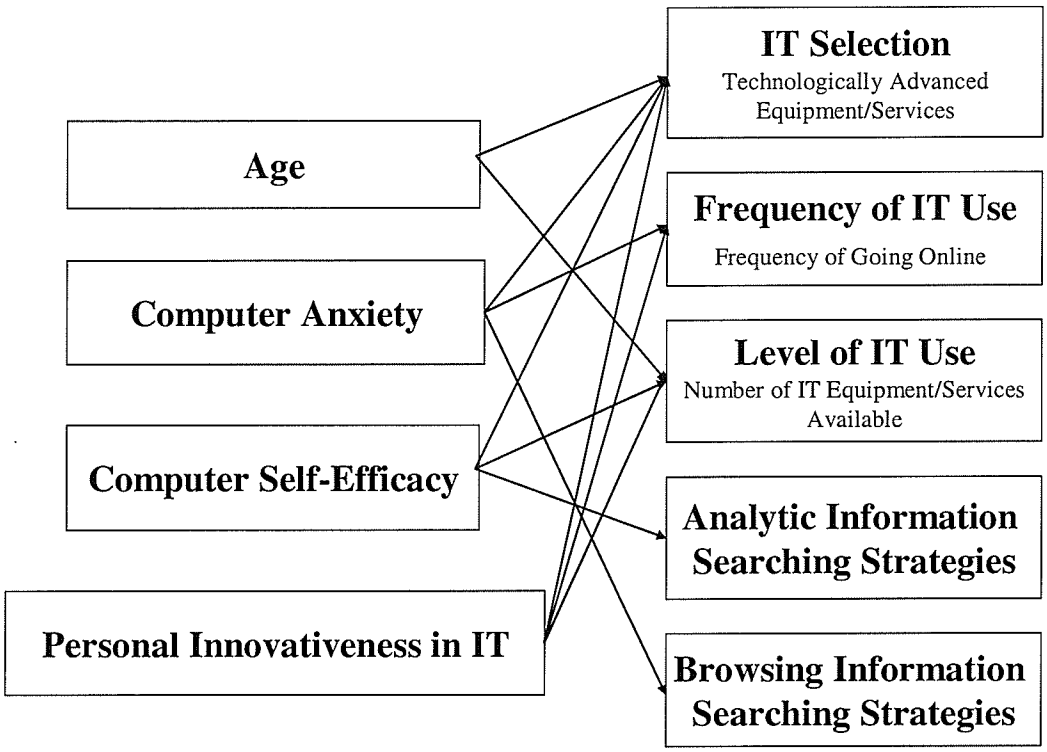
Equipment/Services Used	Age	CA	CSE	PIIT
Cell phone with Internet Access	**Y**	**L**	**H**	**H**
Cell Phone with camera	**Y**	**L**	**H**	**H**
Digital Camera	**Y**	**L**	**H**	**H**
PDA with Internet Access	**Y**	**L**	**H**	**H**
PDA	**Y**		**H**	**H**
Laptop computer with wireless access		**L**	**H**	**H**
Laptop computer	**Y**	**L**		
Global Positioning System/GPS in vehicle			**H**	**H**
I-Pod/MP3/MP4	**Y**	**L**	**H**	**H**

Note: Y = Younger; L = Lower; H = Higher

3. Correlations among CSE and age, CSE and CA, CSE and PIIT, CA and PIIT, CA and age were found and supported by previous studies. A negative correlation was detected between age and PIIT. Also, age only has small correlations with CA and PIIT based on Cohen's guideline (1988).
4. CA and PIIT are two determinants to predict Canadian leisure travellers' frequency of IT use, while age and CSE are not. CSE, PIIT, and age are determinants to predict Canadian leisure travellers' level of IT use, while CA is not.
5. In terms of online information searching strategies, CSE is the only determinant to predict Canadian leisure travellers' employment of analytical information searching strategies, while CA is positively correlated with Canadian leisure travellers' employment of browsing information searching strategies.

Based on these results, a revised conceptual frame work is constructed (see Figure 2).

Figure 2: Revised Conceptual Framework



Implications

The findings of this study have both practical implications for the fields of tourism and information technology and theoretical implications for adding knowledge to tourism-related literature.

Practical Implications

A number of practical implications based on the results of the study are included below.

Firstly, both the tourism industry and the information technology industry should really pay enough attention to the current and future older travellers as they will account for a significant proportion of the overall travel market (McDougall, 1998) and IT market (Filipczak, 1998; ITAC, 2003a).

Secondly, since the digital divide still exists for some older travellers and some of them prefer information in the paper form rather than electronically (Selwyn, 2004), tourism intermediaries (i.e., travel agencies and tour operators), especially traditional intermediaries, should provide both electronic and paper form information to meet different customers' needs. While for the IT industry, especially for those IT manufacturers, usability of different IT equipment/services becomes a crucial issue that will affect their profit and development because a user-friendly device is "definitively able to compensate performance decrements as present in older adults, thus meeting the demand of usability for a broad user group" (Ziefle & Bay, 2005, p. 388). For example, in Ziefle and Bay's study (2005), researchers compared IT performance of younger participants (20-35 years old) and older participants (50-64

years old) through introducing two different kinds of cell phones. The results indicated that age differences did not exist when using the less complex phone.

Thirdly, as Vogt and Fesenmaier (1998) suggested, respondents rated functional travel information needs as more important than hedonic needs. This study displayed the same results and suggested that people will use more analytical searching strategies than browsing searching strategies to gather important information. However, hedonic needs should not be ignored as the fun and entertaining part of browsing the web might attract potential travellers. Thus, these results bring an issue of website design to both tourism and IT industries. To meet different needs and maximize the potential market, content of the website such as "word selection, use of visuals, tone of the communication, and writing style" (Vogt & Fesenmaier, 1998, p. 574) and layout of content such as "placement of the words and pictures, length of the communication and mode of presentation" (Vogt & Fesenmaier, 1998, p. 574) should be taken into account. As Smith and MacKay (2006) suggested, as older people and younger people may process pictorial information in the same manner, marketers of tourism and IT industries may attach more pictures to the website for destination advertising to attract older travellers.

Fourthly, results of this study indicated that computer self-efficacy is relevant to predict respondents' level of IT use and employment of analytical information searching strategies. Also, results stressed that receiving help from other people who know the new software well, previous experience, and sufficient time are important for respondents to have a higher level of confidence. Therefore, proper training is

crucial for people who are novice users, especially older people. Research found that people aged 65 years old and over like to and are able to learn computer-related skills but they need specialized training (Czaja & Lee, 2003; Filipczak, 1998; Grodsky & Gilbert, 1998). Some suggestions include: (1) people aged 65 years old and over feel much more comfortable to take on this technology if they are taught the first time by an instructor who is also an older adult or of the roughly same age (Filipczak, 1998; Grodsky & Gilbert, 1998); (2) emailing and getting on the WWW are two ways to generate their interests (Filipczak, 1998); (3) training programs should take age-related cognitive changes into account when instructing people who are aged 65 years older or above (Rogers & Fisk, 2003). For example, a program for young adults might not be suitable for older adults.

Theoretical Implications

Extensive studies have examined relationships among IT adoption traits, including CA and CSE (Czaja et al., 2006; Igbaria & Iivari, 1995; Laguna & Babcock, 2000), PIIT, CSE, and CA (Thatcher & Perrewe, 2002), PIIT and CSE (Agarwal et al., 2000). However, not many researchers have incorporated age into the research when investigating these relationships. This study proposed a conceptual framework to explore the connection among age, IT adoption traits and travellers' information needs, adding knowledge to tourism-related literature.

As well, this study relates well to two conceptual frameworks, including a model of five stages in the innovation-decision process generated from Rogers' diffusion of innovation theory (2003) and a framework for measuring online travel

community member needs (Wang & Fesenmaier, 2004). For the first model, this study only touched the first two stages of the five stage model, namely, knowledge and persuasion (Rogers, 2003). More specifically, age and IT adoption traits extended the research in the "socioeconomic characters" section of the "knowledge" stage, and IT selection and IT usage extended the research in the "perceived characteristics of the innovation" of the "persuasion" stage (Rogers, 2003). For the second model, because the model was specifically designed for online travel community, this study expanded the model by including people who are not necessarily frequent and experienced online information seekers. In this model, Wang and Fesenmaier (2004) tested the relationship between age and different needs and found that the younger groups (≤ 20, 21 to 30, and 31 to 40) attach greater importance to all four needs than their older counterparts (56 and older). While for this study, age is not a factor to predict respondents' functional and hedonic needs that are related to analytical searching strategies and browsing searching strategies.

Limitations

A few limitations were identified for this study. Firstly, this study recruited participants from lists of individuals provided by a provincial tourism marketing agency, a provincial government tourism department, and Parks Canada. That is, this study employs a non-probability sample of Canadian leisure travellers. Although this sample is appropriate for the study because it is inexpensive and less time-consuming compared to probability sampling (Levy & Lemeshow, 1999), it does not allow researchers to make a precise statistical generalization to the larger population

(Fowler, 1993). Furthermore, this study included only leisure travellers from Canada, so it is uncertain whether the results can be applied to other countries or not. However, this is beyond the scope of this study. Secondly, respondents' information searching strategies were measured through testing their different information needs; that is, the relationships among age, IT adoption traits and information searching strategies were tested indirectly, which may influence the validity of conclusions. Finally, the wording of survey question number 1 (*which of the following equipment/services do you currently have available to you at work and/or home?*), may have caused confusion for some respondents because some items such as cellular phone with Internet access, cell phone with camera, and cell phone could all be checked responses. Respondents do not know whether they should choose one or two or all three items when they have one cell phone with both Internet access and camera. As a result, the number of select IT equipment/services might not be fully accurate, which may also affect the validity of some conclusions on level of use.

Future Research

A few suggestions for future research are also provided:

1. Gender should be included in the future study in this area. Research regarding gender also has many different findings. Luo, Feng, and Cai (2004) suggested that male tourists with higher household incomes are more likely to be the Internet users. Nevertheless, according to the results from Pew Internet and American Life Project (2004), the gender ratio among Internet users has shifted to 50 percent men and 50 percent women. As Selwyn (2004) and Weber and Roehl (1999) suggested, gender

and other demographic characteristics such as age, marital status, education all influence people's IT usage. Gender therefore should be taken into account.

2. Cohort differences in IT usage and online information search can be an interesting topic to study. As Beldona (2005) suggested, a moderate cohort effect, which was defined as "change due to behaviour as a result of the inherent characteristics built around the experiences of the cohorts", was found in the study regarding online information search. Future research should compare the differences among younger people, baby boomers and older people.

3. In the study conducted by Wang and Fesenmaier (2004), the framework for measuring online travel community member needs included four information needs; namely, functional, social, psychological, and hedonic needs. Future study should also explore the connections among age, IT adoptions traits and the remaining two information needs (i.e., social and psychological) and detect what kind of information searching strategies are related to them.

4. Since the questionnaires of this study were distributed to respondents through traditional mail and email formats, whether the format respondents chose to participate in this study is related to their IT selection, IT usage, and online information searching strategies could be another interesting topic to study.

5. Previous study conducted by Kah, Vogt, and MacKay (2006) suggested that a growing number of travellers are employing wireless IT equipment/services to conduct travel information search and booking as "they are in transit to better provide last minute information and products" (p. 406). Based on the results from the present

study, 23.9% of respondents own cell phones with Internet access, 10.4% have PDAs with Internet access, and 34.2% possess laptops with wireless access, hence future research should focus on this growing segment of wireless travellers as they can "generate additional sales to sell otherwise lost capacity and revenues" (Kah, et al., 2006, p. 406).

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APPENDIX A

INFORMED CONSENT FORM

Research Project Title: Understanding the Impacts of Information Technology (IT) on the Vacation Experience

Researcher(s): Kelly J. MacKay, Ph.D.

Sponsor: Social Sciences & Humanities Research Council (SSHRC)

This copy of the consent form should be returned with the questionnaire, and the white copy should be kept for your records and reference. It gives you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

1. **Purpose of Research.**
   The purpose of this research is to investigate how people use or don't use information and specifically information technology (IT) to plan and experience their vacations. Information technology may include cell phones, pagers, personal digital assistants, computers and the Internet, Global Positioning Systems, for example.

2. **Research Procedure.**
   This study involves several stages of participation. Each stage is outlined below.

   Stage 1 - Research participants will complete an initial profile questionnaire to provide information on your vacation travel patterns, use of information technology (for example, cell phones, pagers, PDAs, computers, etc.), and demographic characteristics (e.g., education, age), as well as a list of upcoming trips. This should take no more than 15 minutes to complete and return (in a postage paid, pre-addressed envelope).

   Stage 2 - Research participants will be asked to complete a brief monitoring questionnaire (electronic or paper version) every few months to report on any upcoming trips, planning, and information search for the trip. These routine questions should take no more than 15 minutes to complete.

   Stage 3 - When a trip is forthcoming, participants will be sent a diary to reflect the approximate length of a trip. Participants will be prompted to answer a series of questions about the trip (e.g., activities, information obtained and used, vacation satisfaction) each day. The on-trip diary will be provided in paper format for those who do not access the web daily on their trip. It should take no more than 15 minutes to complete each day of the trip.

   Your involvement is requested for approximately one year to participate in all stages, with the option to continue for a second year.

3. **Participants and Compensation.**
   Participants in the research must be **18 years of age or older**.

   Stage 1 - All individuals who respond to the initial recruiting questionnaire will be entered in a draw for a chance to win a prize (valued at minimum $250).

   Stage 2 - Participants who respond to the regular monitoring questionnaire will be entered in a draw for a chance to win a prize (valued at minimum $250) for each response period.

Stage 3 - An honorarium/incentive of $25 will be provided for each vacation trip diary requested and submitted, plus you will be entered in a draw for a chance to win a prize (valued at minimum $250).

4. **Confidentiality.**
Complete confidentiality will be maintained. No response will be connected with any individual participant. Each participant will be assigned an arbitrary identification code so individual names are not connected to individual responses. Furthermore, individual findings will not be reported, only group level findings. Any quotes from diary entries used in reports, presentations, or papers will not use participants' real names. Paper based questionnaires will be stored in a locked cabinet in a locked research lab and will be shredded at the conclusion of the study. Data will be stored electronically on a password protected computer and on CDs contained in a locked cabinet in a locked research lab.

5. **Voluntary Participation.**
Each person's participation is completely voluntary. Furthermore, any person is free to discontinue his or her participation at any time and for any reason. You are free to refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities.

Professor Kelly MacKay
Health, Leisure, and Human Performance Research Institute
University of Manitoba,
Winnipeg, Manitoba
R3T 2N2

(204) 474-7058 (ph)
(204) 261-4802 (fax)

If you agree to participate in the described research, please sign with today's date on the line below. Your signature constitutes your consent to participate and shows that you have read and understand this consent form. **Please send this signed form in the postage paid pre-addressed envelope.**

Name (please print): _____

Signature_____Date_____

Please mark (✔): I prefer communications and questionnaires ☐ electronically* or ☐ on paper.

*Email address required for electronic communication: _____

APPENDIX B

Questionnaire

UNIVERSITY OF MANITOBA

Health, Leisure & Human Performance

Welcome to the Information Technology and Vacation Experience Study

This brief questionnaire is designed to keep us informed about your information technology (IT) use and any upcoming vacation plans and trips for which you would be willing to complete a travel diary. In addition there are a few questions that will help us describe characteristics of study participants. Your individual responses will be kept strictly confidential. When finished, please return the questionnaire in the pre-addressed, postage-paid envelope to the University of Manitoba **within the next two weeks.**

You will be entered in a draw for a chance to win a prize ($250 value).

1. Which of the following equipment/services do you currently have available to you at work and/or home?
(Mark ✓ all that apply)

O CELLULAR PHONE WITH INTERNET ACCESS	O LAP TOP COMPUTER WITH WIRELESS ACCESS
O CELL PHONE WITH CAMERA	O LAP TOP COMPUTER
O CELL PHONE	O DESK TOP COMPUTER
O DIGITAL CAMERA	O GLOBAL POSITIONING SYSTEM/GPS IN VEHICLE
O PAGER	O ON STAR © SERVICE IN VEHICLE
O PERSONAL DIGITAL ASSISTANT (PALM PILOT, BLACKBERRY) WITH INTERNET ACCESS	
O PERSONAL DIGITAL ASSISTANT	O I-POD/ MP3/ MP4 PLAYER
O OTHER, PLEASE DESCRIBE: _____	

OR
O I HAVE NONE OF THE ABOVE

2. a. In the **past 4 months**, have you used the Internet for: personal reasons: O YES O NO
work reasons: O YES O NO

IF YES TO EITHER, PLEASE CONTINUE:
IF NO TO BOTH, PLEASE SKIP TO QUESTION #3

b. Do you look for wireless Internet access (wi-fi): in your everyday use? O YES O NO
when you travel? O YES O NO

c. Do you access the Internet from: (Mark ✓ all that apply)

O HOME O WORK O SCHOOL O WIRELESS LAPTOP O CAFÉ O PUBLIC LIBRARY

O A WIRELESS HAND-HELD DEVICE (PHONE, PDA) O OTHER PLACES: SPECIFY _____

d. If you access the Internet, how often are you going online during a typical week? (Mark ✓ one)

O CONTINUOUSLY O ABOUT ONCE A DAY O 1-2 DAYS A WEEK
O SEVERAL TIMES A DAY O 3-5 DAYS A WEEK O LESS OFTEN O OTHER: _____

3. Please circle a response that best reflects your current situation:

	Low						High
I CONSIDER MY USE OF TECHNOLOGY AS	1	2	3	4	5	6	7
I CONSIDER MY USE OF THE INTERNET AS	1	2	3	4	5	6	7
COMPARED TO MY FRIENDS, MY OWNERSHIP OF TECHNOLOGY IS	1	2	3	4	5	6	7

Contact: Professor Kelly MacKay 204-474-7058 or mackay@cc.umanitoba.ca

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4. Below are statements about computer and Information Technology in general (e.g., PDA, Cell Phone, etc.). Please circle the number that represents your level of agreement.

	STRONGLY DISAGREE						STRONGLY AGREE
I FEEL APPREHENSIVE ABOUT USING COMPUTERS.	1	2	3	4	5	6	7
IT SCARES ME TO THINK THAT I COULD CAUSE THE COMPUTER TO DESTROY A LARGE AMOUNT OF INFORMATION BY HITTING THE WRONG KEY.	1	2	3	4	5	6	7
I HESITATE TO USE A COMPUTER FOR FEAR OF MAKING MISTAKES THAT I CANNOT CORRECT.	1	2	3	4	5	6	7
COMPUTERS ARE SOMEWHAT INTIMIDATING TO ME.	1	2	3	4	5	6	7
IF I HEARD ABOUT A NEW INFORMATION TECHNOLOGY, I WOULD LOOK FOR WAYS TO EXPERIMENT WITH IT.	1	2	3	4	5	6	7
AMONG MY PEERS, I AM USUALLY THE FIRST TO TRY OUT NEW INFORMATION TECHNOLOGIES.	1	2	3	4	5	6	7
IN GENERAL, I AM HESITANT TO TRY OUT NEW INFORMATION TECHNOLOGIES.	1	2	3	4	5	6	7
I LIKE TO EXPERIMENT WITH NEW INFORMATION TECHNOLOGIES.	1	2	3	4	5	6	7

5. Often when using computers, we are told about software packages available to make using the computer easier. For this question, please answer in two parts. First, please mark "YES" OR "NO" based on whether you think you could use unfamiliar software under the conditions described. Next, if you chose "YES", please rate your level of confidence to do so by circling the number from 1 to 10.

I COULD USE THE SOFTWARE PACKAGE		NOT AT ALL CONFIDENT					MODERATELY CONFIDENT				TOTALLY CONFIDENT
IF THERE WAS NO ONE AROUND TO TELL ME WHAT TO DO AS I GO.	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10
IF I HAD NEVER USED A PACKAGE LIKE IT BEFORE	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10
IF I HAD ONLY THE SOFTWARE MANUALS FOR REFERENCE.	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10
IF I HAD SEEN SOMEONE ELSE USING IT BEFORE TRYING IT MYSELF.	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10
IF I COULD CALL SOMEONE FOR HELP IF I GOT STUCK.	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10
IF SOMEONE ELSE HAD HELPED ME GET STARTED.	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10
IF I HAD A LOT OF TIME TO COMPLETE THE TASK FOR WHICH THE SOFTWARE WAS PROVIDED.	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10
IF I HAD JUST THE BUILT-IN HELP FACILITY FOR ASSISTANCE.	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10
IF SOMEONE SHOWED ME HOW TO DO IT FIRST.	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10
IF I HAD USED SIMILAR PACKAGES BEFORE THIS ONE TO DO THE SAME TASK.	O YES ..... O NO	1	2	3	4	5	6	7	8	9	10

University of Manitoba — Welcome to the Information Technology and Vacation Experience Study — Health, Leisure & Human Performance

6. Please tell us where, when, and for how long (be as specific as possible) you are planning to go for your **next vacations (up to three) in the next three months (February, March, April).** Also please indicate (✓) **for which trip(s) you will do a travel diary** (on paper or web based, only if you have daily Internet access).

Main Destination	Likely Departure Date	Number of Days	Willing to Complete Travel Diary?
_____	_____	_____	O YES O PAPER O WEB (DAILY ACCESS) O NO, NOT THIS TRIP
_____	_____	_____	O YES O PAPER O WEB (DAILY ACCESS) O NO, NOT THIS TRIP
_____	_____	_____	O YES O PAPER O WEB (DAILY ACCESS) O NO, NOT THIS TRIP

Based on the above places, please identify the next vacation destination you are most likely to go: _____ (write in here)

Please answer question # 7 based on that destination or SKIP to Question #8 if no upcoming trips.

7. When planning your vacation identified as the most likely to occur, please indicate how you have used or will use the sources and services listed below, if at all. **Not all formats apply in all cases.** Traditional refers to how information is presented or the service is purchased (e.g., in print, telephone, in person), and Internet refers to web-based online sources.

Mark ✓ all those that you have used or will use for trip information and or purchase.

Source/Service	Information Sources to Plan Trip: Traditional	Information Sources to Plan Trip: Internet	Purchases Made So Far through: Traditional	Purchases Made So Far through: Internet
NEWSPAPER/MAGAZINE ARTICLES	O	O	O	O
NEWSPAPER/MAGAZINE ADS	O	O	O	O
TELEVISION PROGRAMS	O	O	O	O
TELEVISION COMMERICIALS	O	O	O	O
RADIO COMMERCIALS	O	O	O	O
CAA/AAA OR OTHER MOTOR CLUB	O	O	O	O
GUIDE BOOKS (FODOR'S, ETC.)	O	O	O	O
VISITOR INFORMATION CENTRES	O	O	O	O
TRAVEL MAPS	O	O	O	O
DESTINATION'S TOURISM DEPARTMENT	O	O	O	O
CONVENTION/VISITOR BUREAU	O	O	O	O
ADVICE FROM FAMILY	O	O	O	O
MY PAST EXPERIENCE	O	O	O	O
ADVICE FROM FRIENDS	O	O	O	O
CHAMBER OF COMMERCE	O	O	O	O
ATTRACTIONS AND/OR EVENTS	O	O	O	O
ACCOMMODATIONS	O	O	O	O
AIRLINES	O	O	O	O
OTHER TRANSPORTATION	O	O	O	O
TRAVEL WEB SITES (TRAVELOCITY, ETC.)	O	O	O	O
TRAVEL AGENCIES	O	O	O	O
TOUR OPERATORS	O	O	O	O
OTHER	O	O	O	O

PLEASE DESCRIBE: _____

Contact: Professor Kelly MacKay 204-474-7058 or mackay@cc.umanitoba.ca

PLEASE TURN OVER →

8. Please indicate how much you agree with the following reasons for searching travel information in general? (Please circle a response for each statement.)

	Strongly Disagree						Strongly Agree
LEARN ABOUT UNIQUE EVENTS	1	2	3	4	5	6	7
BE WELL-INFORMED	1	2	3	4	5	6	7
LEARN ABOUT PRICES	1	2	3	4	5	6	7
KNOW ABOUT HIGHLIGHTS	1	2	3	4	5	6	7
FIND BARGAINS	1	2	3	4	5	6	7
GET A GOOD DEAL	1	2	3	4	5	6	7
LOCATE INFORMATION THAT IS CONCISE	1	2	3	4	5	6	7
BE PREPARED FOR ALL ASPECTS	1	2	3	4	5	6	7
LOCATE BEST AVAILABLE INFORMATION	1	2	3	4	5	6	7
REDUCE THE LIKELIHOOD OF DISASTER	1	2	3	4	5	6	7
REDUCE LIKELIHOOD OF BEING DISAPPOINTED	1	2	3	4	5	6	7
GET EXCITED ABOUT TRAVEL	1	2	3	4	5	6	7
BE ENTERTAINED	1	2	3	4	5	6	7
GET EXCITED ABOUT UNIQUE CULTURES	1	2	3	4	5	6	7
"HEAR" THE SOUNDS OF THE OCEAN	1	2	3	4	5	6	7
"SMELL" THE FRESH AIR	1	2	3	4	5	6	7
"TASTE" THOSE FOODS I DISCOVER	1	2	3	4	5	6	7
EXPERIENCE THE LOCAL CULTURE	1	2	3	4	5	6	7
REALIZE EXPERIENCES THAT I THINK ABOUT	1	2	3	4	5	6	7
UNDERSTAND THE PERSONALITY OF A COMMUNITY	1	2	3	4	5	6	7
WONDER ABOUT DAILY LIFE OF AREA	1	2	3	4	5	6	7

THANK-YOU!

Contact: Professor Kelly MacKay 204-474-7058 or mackay@cc.umanitoba.ca

THE END

APPENDIX C

Reminder Card

UNIVERSITY OF MANITOBA

Health, Leisure & Human Performance

Reminder .....A few days ago you should have received an invitation to participate in the *Information Technology and Vacation Experience Study* being conducted by the University of Manitoba. There is still time to participate and have your name entered in the prize draw. Your cooperation and opinions are important. If you have already replied, please disregard this notice.
Thank-you for your assistance and good luck in the prize draw ($250 value).

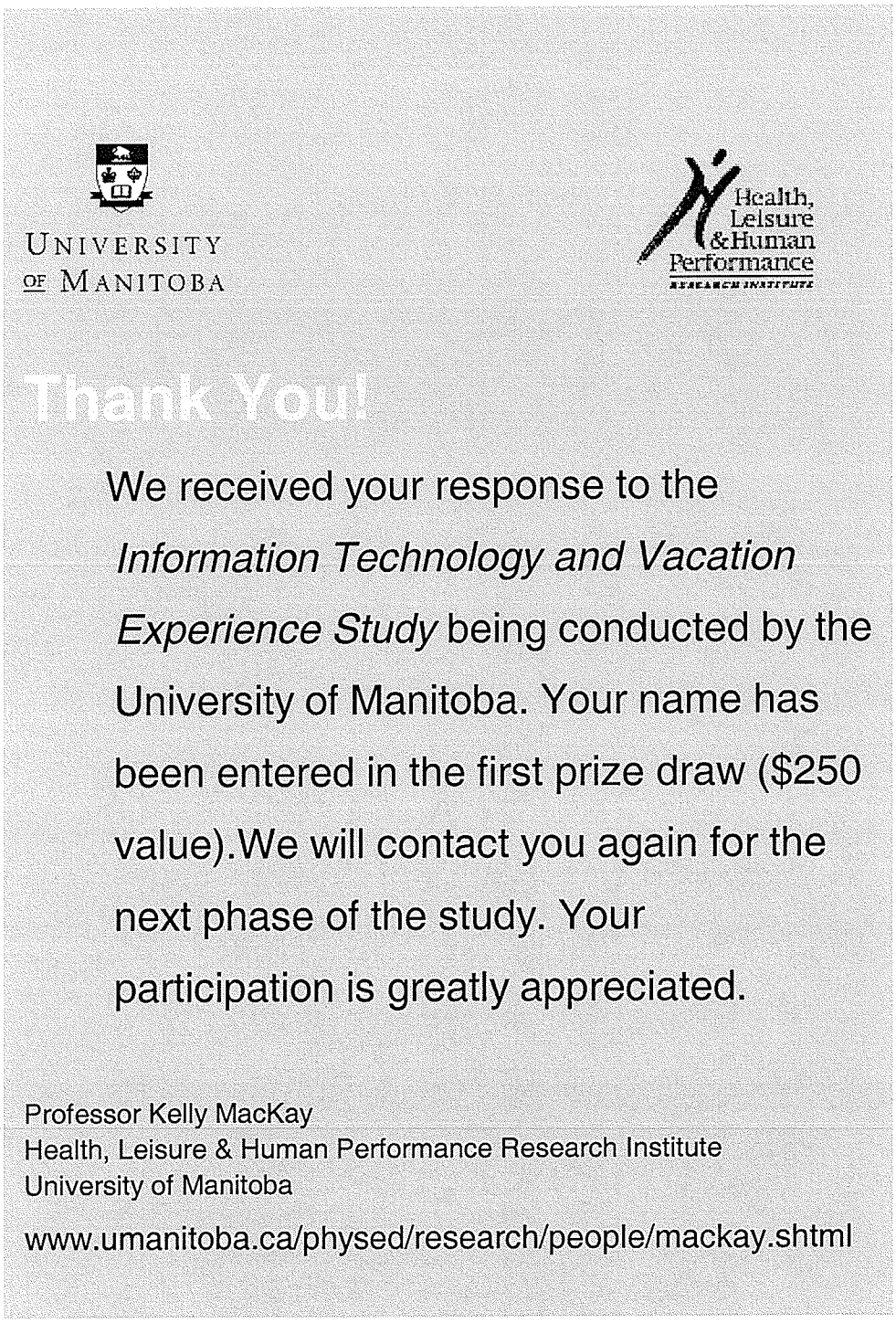
Professor Kelly MacKay
Health, Leisure & Human Performance Research Institute

University of Manitoba

www.umanitoba.ca/physed/research/people/mackay.shtml

APPENDIX D

Thank-You Card



APPENDIX E

Frequencies

Perception of Technology and the Internet & Ownership of Technology

use of technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	8	3.6	3.7	3.7
	2	13	5.9	6.0	9.6
	3	38	17.1	17.4	27.1
	4	46	20.7	21.1	48.2
	5	69	31.1	31.7	79.8
	6	31	14.0	14.2	94.0
	high	13	5.9	6.0	100.0
	Total	218	98.2	100.0	
Missing	System	4	1.8		
Total		222	100.0		

use of the Internet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	7	3.2	3.3	3.3
	2	7	3.2	3.3	6.6
	3	18	8.1	8.5	15.1
	4	45	20.3	21.2	36.3
	5	63	28.4	29.7	66.0
	6	48	21.6	22.6	88.7
	high	24	10.8	11.3	100.0
	Total	212	95.5	100.0	
Missing	System	10	4.5		
Total		222	100.0		

ownership of technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	11	5.0	5.0	5.0
	2	16	7.2	7.3	12.3
	3	30	13.5	13.7	26.0
	4	57	25.7	26.0	52.1
	5	50	22.5	22.8	74.9
	6	38	17.1	17.4	92.2
	high	17	7.7	7.8	100.0
	Total	219	98.6	100.0	
Missing	System	3	1.4		
Total		222	100.0		

Computer Anxiety

apprehensive about using computers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	100	45.0	45.5	45.5
	2	62	27.9	28.2	73.6
	3	21	9.5	9.5	83.2
	4	16	7.2	7.3	90.5
	5	15	6.8	6.8	97.3
	6	6	2.7	2.7	100.0
	Total	220	99.1	100.0	
Missing	System	2	.9		
Total		222	100.0		

scares me to cause the computer to destroy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	90	40.5	41.1	41.1
	2	71	32.0	32.4	73.5
	3	21	9.5	9.6	83.1
	4	14	6.3	6.4	89.5
	5	9	4.1	4.1	93.6
	6	12	5.4	5.5	99.1
	Strongly Agree	2	.9	.9	100.0
	Total	219	98.6	100.0	
Missing	System	3	1.4		
Total		222	100.0		

hesitate to use a computer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	121	54.5	54.8	54.8
	2	63	28.4	28.5	83.3
	3	12	5.4	5.4	88.7
	4	11	5.0	5.0	93.7
	5	9	4.1	4.1	97.7
	6	4	1.8	1.8	99.5
	Strongly Agree	1	.5	.5	100.0
	Total	221	99.5	100.0	
Missing	System	1	.5		
Total		222	100.0		

intimidating

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	105	47.3	49.1	49.1
	2	54	24.3	25.2	74.3
	3	15	6.8	7.0	81.3
	4	20	9.0	9.3	90.7
	5	14	6.3	6.5	97.2
	6	3	1.4	1.4	98.6
	Strongly Agree	3	1.4	1.4	100.0
	Total	214	96.4	100.0	
Missing	System	8	3.6		
Total		222	100.0		

Personal Innovativeness in IT

look for ways to experient with IT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	8.1	8.2	8.2
	2	34	15.3	15.5	23.6
	3	37	16.7	16.8	40.5
	4	51	23.0	23.2	63.6
	5	35	15.8	15.9	79.5
	6	35	15.8	15.9	95.5
	Strongly Agree	10	4.5	4.5	100.0
	Total	220	99.1	100.0	
Missing	System	2	.9		
Total		222	100.0		

the first to try out new ITs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	39	17.6	17.9	17.9
	2	41	18.5	18.8	36.7
	3	34	15.3	15.6	52.3
	4	45	20.3	20.6	72.9
	5	33	14.9	15.1	88.1
	6	19	8.6	8.7	96.8
	Strongly Agree	7	3.2	3.2	100.0
	Total	218	98.2	100.0	
Missing	System	4	1.8		
Total		222	100.0		

hesitant to try out new ITs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	52	23.4	23.6	23.6
	2	61	27.5	27.7	51.4
	3	42	18.9	19.1	70.5
	4	32	14.4	14.5	85.0
	5	9	4.1	4.1	89.1
	6	17	7.7	7.7	96.8
	Strongly Agree	7	3.2	3.2	100.0
	Total	220	99.1	100.0	
Missing	System	2	.9		
Total		222	100.0		

like to experiment with new ITs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	19	8.6	8.8	8.8
	2	31	14.0	14.3	23.0
	3	37	16.7	17.1	40.1
	4	41	18.5	18.9	59.0
	5	43	19.4	19.8	78.8
	6	30	13.5	13.8	92.6
	Strongly Agree	16	7.2	7.4	100.0
	Total	217	97.7	100.0	
Missing	System	5	2.3		
Total		222	100.0		

Computer Self-Efficacy

no one around to tell me what to do

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	3	1.4	1.6	1.6
	2	12	5.4	6.2	7.8
	3	20	9.0	10.4	18.1
	4	15	6.8	7.8	25.9
	Moderately confident	42	18.9	21.8	47.7
	6	16	7.2	8.3	56.0
	7	26	11.7	13.5	69.4
	8	28	12.6	14.5	83.9
	9	19	8.6	9.8	93.8
	Totally confident	12	5.4	6.2	100.0
	Total	193	86.9	100.0	
Missing	System	29	13.1		
Total		222	100.0		

never use a package like it before

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	3	1.4	1.7	1.7
	2	16	7.2	9.1	10.8
	3	23	10.4	13.1	23.9
	4	15	6.8	8.5	32.4
	Moderately confident	32	14.4	18.2	50.6
	6	19	8.6	10.8	61.4
	7	18	8.1	10.2	71.6
	8	28	12.6	15.9	87.5
	9	14	6.3	8.0	95.5
	Totally confident	8	3.6	4.5	100.0
	Total	176	79.3	100.0	
Missing	System	46	20.7		
Total		222	100.0		

software manuals for reference

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	4	1.8	2.1	2.1
	2	18	8.1	9.6	11.8
	3	22	9.9	11.8	23.5
	4	18	8.1	9.6	33.2
	Moderately confident	28	12.6	15.0	48.1
	6	13	5.9	7.0	55.1
	7	27	12.2	14.4	69.5
	8	27	12.2	14.4	84.0
	9	16	7.2	8.6	92.5
	Totally confident	14	6.3	7.5	100.0
	Total	187	84.2	100.0	
Missing	System	35	15.8		
Total		222	100.0		

see someone else using it before trying it myself

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	2	.9	1.0	1.0
	2	13	5.9	6.5	7.5
	3	21	9.5	10.5	18.0
	4	16	7.2	8.0	26.0
	Moderately confident	31	14.0	15.5	41.5
	6	22	9.9	11.0	52.5
	7	21	9.5	10.5	63.0
	8	32	14.4	16.0	79.0
	9	26	11.7	13.0	92.0
	Totally confident	16	7.2	8.0	100.0
	Total	200	90.1	100.0	
Missing	System	22	9.9		
Total		222	100.0		

call someone for help if I got stuck

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	4	1.8	1.9	1.9
	2	8	3.6	3.8	5.6
	3	14	6.3	6.6	12.2
	4	18	8.1	8.5	20.7
	Moderately confident	25	11.3	11.7	32.4
	6	20	9.0	9.4	41.8
	7	22	9.9	10.3	52.1
	8	29	13.1	13.6	65.7
	9	35	15.8	16.4	82.2
	Totally confident	38	17.1	17.8	100.0
	Total	213	95.9	100.0	
Missing	System	9	4.1		
Total		222	100.0		

someone else had helped me get started

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	1	.5	.5	.5
	2	9	4.1	4.3	4.8
	3	12	5.4	5.7	10.5
	4	20	9.0	9.5	20.0
	Moderately confident	23	10.4	11.0	31.0
	6	15	6.8	7.1	38.1
	7	29	13.1	13.8	51.9
	8	29	13.1	13.8	65.7
	9	33	14.9	15.7	81.4
	Totally confident	39	17.6	18.6	100.0
	Total	210	94.6	100.0	
Missing	System	12	5.4		
Total		222	100.0		

had a lot of time to complete the task

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	1	.5	.5	.5
	2	7	3.2	3.4	3.9
	3	19	8.6	9.2	13.1
	4	20	9.0	9.7	22.8
	Moderately confident	24	10.8	11.7	34.5
	6	14	6.3	6.8	41.3
	7	27	12.2	13.1	54.4
	8	25	11.3	12.1	66.5
	9	27	12.2	13.1	79.6
	Totally confident	42	18.9	20.4	100.0
	Total	206	92.8	100.0	
Missing	System	16	7.2		
Total		222	100.0		

had just the built-in help facility for assistance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	3	1.4	1.6	1.6
	2	18	8.1	9.3	10.9
	3	22	9.9	11.4	22.3
	4	17	7.7	8.8	31.1
	Moderately confident	25	11.3	13.0	44.0
	6	13	5.9	6.7	50.8
	7	25	11.3	13.0	63.7
	8	28	12.6	14.5	78.2
	9	23	10.4	11.9	90.2
	Totally confident	19	8.6	9.8	100.0
	Total	193	86.9	100.0	
Missing	System	29	13.1		
Total		222	100.0		

someone showed me how to do it first

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	2	.9	.9	.9
	2	5	2.3	2.4	3.3
	3	14	6.3	6.6	10.0
	4	16	7.2	7.6	17.5
	Moderately confident	21	9.5	10.0	27.5
	6	19	8.6	9.0	36.5
	7	25	11.3	11.8	48.3
	8	26	11.7	12.3	60.7
	9	35	15.8	16.6	77.3
	Totally confident	48	21.6	22.7	100.0
	Total	211	95.0	100.0	
Missing	System	11	5.0		
Total		222	100.0		

used similar packages before

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident	1	.5	.5	.5
	2	5	2.3	2.4	2.9
	3	5	2.3	2.4	5.2
	4	18	8.1	8.6	13.8
	Moderately confident	17	7.7	8.1	21.9
	6	16	7.2	7.6	29.5
	7	24	10.8	11.4	41.0
	8	42	18.9	20.0	61.0
	9	31	14.0	14.8	75.7
	Totally confident	51	23.0	24.3	100.0
	Total	210	94.6	100.0	
Missing	System	12	5.4		
Total		222	100.0		

Travel Information Need

learn about unique events

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	5	2.3	2.3	2.3
	3	8	3.6	3.8	6.1
	4	23	10.4	10.8	16.9
	5	63	28.4	29.6	46.5
	6	66	29.7	31.0	77.5
	Strongly Agree	48	21.6	22.5	100.0
	Total	213	95.9	100.0	
Missing	System	9	4.1		
Total		222	100.0		

be well-informed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.5	.5	.5
	2	2	.9	.9	1.4
	3	1	.5	.5	1.9
	4	12	5.4	5.7	7.5
	5	41	18.5	19.3	26.9
	6	82	36.9	38.7	65.6
	Strongly Agree	73	32.9	34.4	100.0
	Total	212	95.5	100.0	
Missing	System	10	4.5		
Total		222	100.0		

learn about prices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	8	3.6	3.8	3.8
	4	9	4.1	4.2	8.0
	5	37	16.7	17.4	25.4
	6	77	34.7	36.2	61.5
	Strongly Agree	82	36.9	38.5	100.0
	Total	213	95.9	100.0	
Missing	System	9	4.1		
Total		222	100.0		

know about highlights

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	4	1.8	1.9	1.9
	3	4	1.8	1.9	3.8
	4	15	6.8	7.2	11.1
	5	48	21.6	23.1	34.1
	6	80	36.0	38.5	72.6
	Strongly Agree	57	25.7	27.4	100.0
	Total	208	93.7	100.0	
Missing	System	14	6.3		
Total		222	100.0		

find bargains

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.5	.5	.5
	2	5	2.3	2.3	2.8
	3	16	7.2	7.5	10.3
	4	23	10.4	10.7	21.0
	5	36	16.2	16.8	37.9
	6	70	31.5	32.7	70.6
	Strongly Agree	63	28.4	29.4	100.0
	Total	214	96.4	100.0	
Missing	System	8	3.6		
Total		222	100.0		

get a good deal

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	.9	.9	.9
	3	10	4.5	4.7	5.6
	4	29	13.1	13.6	19.2
	5	37	16.7	17.4	36.6
	6	72	32.4	33.8	70.4
	Strongly Agree	63	28.4	29.6	100.0
	Total	213	95.9	100.0	
Missing	System	9	4.1		
Total		222	100.0		

locate information that is concise

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.5	.5	.5
	2	2	.9	.9	1.4
	3	5	2.3	2.3	3.8
	4	27	12.2	12.7	16.4
	5	59	26.6	27.7	44.1
	6	72	32.4	33.8	77.9
	Strongly Agree	47	21.2	22.1	100.0
	Total	213	95.9	100.0	
Missing	System	9	4.1		
Total		222	100.0		

be prepared for all aspects

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	4	1.8	1.9	1.9
	3	10	4.5	4.7	6.6
	4	38	17.1	18.0	24.6
	5	52	23.4	24.6	49.3
	6	67	30.2	31.8	81.0
	Strongly Agree	40	18.0	19.0	100.0
	Total	211	95.0	100.0	
Missing	System	11	5.0		
Total		222	100.0		

locate best available information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	.9	.9	.9
	3	4	1.8	1.9	2.8
	4	24	10.8	11.1	13.9
	5	45	20.3	20.8	34.7
	6	79	35.6	36.6	71.3
	Strongly Agree	62	27.9	28.7	100.0
	Total	216	97.3	100.0	
Missing	System	6	2.7		
Total		222	100.0		

reduce the likelihood of disaster

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.8	1.9	1.9
	2	18	8.1	8.5	10.3
	3	19	8.6	8.9	19.2
	4	41	18.5	19.2	38.5
	5	40	18.0	18.8	57.3
	6	47	21.2	22.1	79.3
	Strongly Agree	44	19.8	20.7	100.0
	Total	213	95.9	100.0	
Missing	System	9	4.1		
Total		222	100.0		

reduce likelihood of being disppointed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.4	1.4	1.4
	2	9	4.1	4.2	5.6
	3	16	7.2	7.5	13.1
	4	41	18.5	19.2	32.2
	5	43	19.4	20.1	52.3
	6	62	27.9	29.0	81.3
	Strongly Agree	40	18.0	18.7	100.0
	Total	214	96.4	100.0	
Missing	System	8	3.6		
Total		222	100.0		

get excited about travel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.5	.5	.5
	2	5	2.3	2.4	2.8
	3	8	3.6	3.8	6.6
	4	24	10.8	11.4	18.0
	5	35	15.8	16.6	34.6
	6	74	33.3	35.1	69.7
	Strongly Agree	64	28.8	30.3	100.0
	Total	211	95.0	100.0	
Missing	System	11	5.0		
Total		222	100.0		

be entertained

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.4	1.4	1.4
	2	10	4.5	4.7	6.0
	3	22	9.9	10.2	16.3
	4	38	17.1	17.7	34.0
	5	61	27.5	28.4	62.3
	6	54	24.3	25.1	87.4
	Strongly Agree	27	12.2	12.6	100.0
	Total	215	96.8	100.0	
Missing	System	7	3.2		
Total		222	100.0		

get excited about unique cultures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.4	1.4	1.4
	2	7	3.2	3.3	4.8
	3	14	6.3	6.7	11.4
	4	43	19.4	20.5	31.9
	5	60	27.0	28.6	60.5
	6	53	23.9	25.2	85.7
	Strongly Agree	30	13.5	14.3	100.0
	Total	210	94.6	100.0	
Missing	System	12	5.4		
Total		222	100.0		

"hear" the sounds of the ocean

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	39	17.6	18.5	18.5
	2	32	14.4	15.2	33.6
	3	27	12.2	12.8	46.4
	4	34	15.3	16.1	62.6
	5	31	14.0	14.7	77.3
	6	26	11.7	12.3	89.6
	Strongly Agree	22	9.9	10.4	100.0
	Total	211	95.0	100.0	
Missing	System	11	5.0		
Total		222	100.0		

"smell" the fresh air

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	38	17.1	18.1	18.1
	2	27	12.2	12.9	31.0
	3	21	9.5	10.0	41.0
	4	38	17.1	18.1	59.0
	5	24	10.8	11.4	70.5
	6	33	14.9	15.7	86.2
	Strongly Agree	29	13.1	13.8	100.0
	Total	210	94.6	100.0	
Missing	System	12	5.4		
Total		222	100.0		

"taste" those foods I discover

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	33	14.9	15.6	15.6
	2	20	9.0	9.4	25.0
	3	21	9.5	9.9	34.9
	4	41	18.5	19.3	54.2
	5	39	17.6	18.4	72.6
	6	37	16.7	17.5	90.1
	Strongly Agree	21	9.5	9.9	100.0
	Total	212	95.5	100.0	
Missing	System	10	4.5		
Total		222	100.0		

experience the local culture

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	2.7	2.9	2.9
	2	10	4.5	4.8	7.6
	3	14	6.3	6.7	14.3
	4	35	15.8	16.7	31.0
	5	53	23.9	25.2	56.2
	6	59	26.6	28.1	84.3
	Strongly Agree	33	14.9	15.7	100.0
	Total	210	94.6	100.0	
Missing	System	12	5.4		
Total		222	100.0		

realize experiences that I think about

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	3.2	3.3	3.3
	2	12	5.4	5.7	9.0
	3	14	6.3	6.6	15.6
	4	39	17.6	18.4	34.0
	5	54	24.3	25.5	59.4
	6	59	26.6	27.8	87.3
	Strongly Agree	27	12.2	12.7	100.0
	Total	212	95.5	100.0	
Missing	System	10	4.5		
Total		222	100.0		

understand the personality of a community

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	2.7	2.8	2.8
	2	10	4.5	4.7	7.6
	3	16	7.2	7.6	15.2
	4	37	16.7	17.5	32.7
	5	60	27.0	28.4	61.1
	6	54	24.3	25.6	86.7
	Strongly Agree	28	12.6	13.3	100.0
	Total	211	95.0	100.0	
Missing	System	11	5.0		
Total		222	100.0		

wonder about daily life of area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	3.6	3.7	3.7
	2	10	4.5	4.7	8.4
	3	12	5.4	5.6	14.0
	4	39	17.6	18.1	32.1
	5	67	30.2	31.2	63.3
	6	58	26.1	27.0	90.2
	Strongly Agree	21	9.5	9.8	100.0
	Total	215	96.8	100.0	
Missing	System	7	3.2		
Total		222	100.0		

APPENDIX F

Multiple Regression Results

Age, CA, CSE, PIIT and Frequency of IT use

Bivariate Analyses

Correlations

		how often going online in a week	NEWAGE
how often going online in a week	Pearson Correlation	1	-.184**
	Sig. (2-tailed)		.006
	N	217	217
NEWAGE	Pearson Correlation	-.184**	1
	Sig. (2-tailed)	.006	
	N	217	222

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		how often going online in a week	CA
how often going online in a week	Pearson Correlation	1	-.397**
	Sig. (2-tailed)		.000
	N	217	217
CA	Pearson Correlation	-.397**	1
	Sig. (2-tailed)	.000	
	N	217	221

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		how often going online in a week	PIIT
how often going online in a week	Pearson Correlation	1	.340**
	Sig. (2-tailed)		.000
	N	217	217
PIIT	Pearson Correlation	.340**	1
	Sig. (2-tailed)	.000	
	N	217	221

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		how often going online in a week	CSE
how often going online in a week	Pearson Correlation	1	.344**
	Sig. (2-tailed)		.000
	N	217	215
CSE	Pearson Correlation	.344**	1
	Sig. (2-tailed)	.000	
	N	215	219

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations between Explanatory Variables

Correlations

		how often going online in a week	NEWAGE	CA	PIIT	CSE
how often going online in a week	Pearson Correlation	1	-.184**	-.397**	.340**	.344**
	Sig. (2-tailed)		.006	.000	.000	.000
	N	217	217	217	217	215
NEWAGE	Pearson Correlation	-.184**	1	.218**	-.178**	-.455**
	Sig. (2-tailed)	.006		.001	.008	.000
	N	217	222	221	221	219
CA	Pearson Correlation	-.397**	.218**	1	-.436**	-.473**
	Sig. (2-tailed)	.000	.001		.000	.000
	N	217	221	221	221	218
PIIT	Pearson Correlation	.340**	-.178**	-.436**	1	.525**
	Sig. (2-tailed)	.000	.008	.000		.000
	N	217	221	221	221	218
CSE	Pearson Correlation	.344**	-.455**	-.473**	.525**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	215	219	218	218	219

**. Correlation is significant at the 0.01 level (2-tailed).

Multiple Regression Model

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CSE, NEWAGE, CA, PIIT[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: how often going online in a week

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.454[a]	.206	.191	1.198

a. Predictors: (Constant), CSE, NEWAGE, CA, PIIT

b. Dependent Variable: how often going online in a week

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.336	4	19.584	13.654	.000[a]
	Residual	301.195	210	1.434		
	Total	379.531	214			

a. Predictors: (Constant), CSE, NEWAGE, CA, PIIT

b. Dependent Variable: how often going online in a week

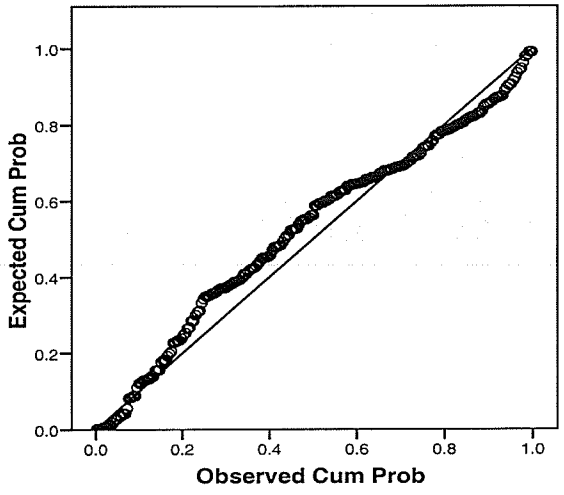
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.529	.607		7.461	.000		
	NEWAGE	-.005	.007	-.046	-.666	.506	.788	1.270
	CA	-.302	.082	-.264	-3.663	.000	.727	1.375
	PIIT	.150	.072	.156	2.078	.039	.674	1.483
	CSE	.062	.044	.117	1.397	.164	.543	1.842

a. Dependent Variable: how often going online in a week

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: how often going online in a week



Age, CA, CSE, PIIT and Level of IT use

Bivariate Analyses

Correlations[a]

		IT equipment	NEWAGE
IT equipment	Pearson Correlation	1	-.395**
	Sig. (2-tailed)		.000
NEWAGE	Pearson Correlation	-.395**	1
	Sig. (2-tailed)	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

a. Listwise N=222

Correlations[a]

		IT equipment	CA
IT equipment	Pearson Correlation	1	-.345**
	Sig. (2-tailed)		.000
CA	Pearson Correlation	-.345**	1
	Sig. (2-tailed)	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

a. Listwise N=221

Correlations[a]

		IT equipment	PIIT
IT equipment	Pearson Correlation	1	.381**
	Sig. (2-tailed)		.000
PIIT	Pearson Correlation	.381**	1
	Sig. (2-tailed)	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

a. Listwise N=221

Correlations[a]

		IT equipment	CSE
IT equipment	Pearson Correlation	1	.526**
	Sig. (2-tailed)		.000
CSE	Pearson Correlation	.526**	1
	Sig. (2-tailed)	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

a. Listwise N=219

Correlations between Explanatory Variables

Correlations

		IT equipment	NEWAGE	CA	PIIT	CSE
IT equipment	Pearson Correlation	1	-.395**	-.345**	.381**	.526**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	222	222	221	221	219
NEWAGE	Pearson Correlation	-.395**	1	.218**	-.178**	-.455**
	Sig. (2-tailed)	.000		.001	.008	.000
	N	222	222	221	221	219
CA	Pearson Correlation	-.345**	.218**	1	-.436**	-.473**
	Sig. (2-tailed)	.000	.001		.000	.000
	N	221	221	221	221	218
PIIT	Pearson Correlation	.381**	-.178**	-.436**	1	.525**
	Sig. (2-tailed)	.000	.008	.000		.000
	N	221	221	221	221	218
CSE	Pearson Correlation	.526**	-.455**	-.473**	.525**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	219	219	218	218	219

**. Correlation is significant at the 0.01 level (2-tailed).

Multiple Regression Model

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CSE, NEWAGE, CA, PIIT[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: IT equipment

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.576[a]	.332	.319	1.561

a. Predictors: (Constant), CSE, NEWAGE, CA, PIIT

b. Dependent Variable: IT equipment

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	258.092	4	64.523	26.466	.000[a]
	Residual	519.290	213	2.438		
	Total	777.382	217			

a. Predictors: (Constant), CSE, NEWAGE, CA, PIIT

b. Dependent Variable: IT equipment

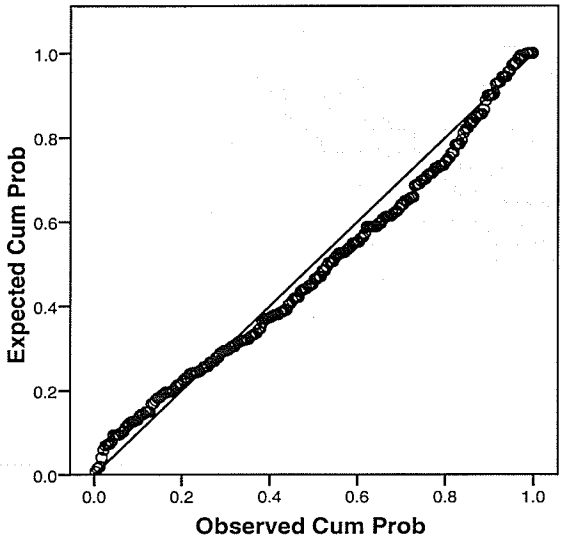
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.665	.786		4.664	.000		
	NEWAGE	-.029	.009	-.206	-3.265	.001	.788	1.270
	CA	-.146	.107	-.090	-1.367	.173	.727	1.375
	PIIT	.191	.094	.139	2.032	.043	.674	1.483
	CSE	.240	.057	.317	4.174	.000	.543	1.842

a. Dependent Variable: IT equipment

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: IT equipment



Age, CA, CSE, PIIT and Functional (analytic-goal driven)

Bivariate Analyses

Correlations

		analytical	NEWAGE
analytical	Pearson Correlation	1	-.137*
	Sig. (2-tailed)		.044
	N	217	217
NEWAGE	Pearson Correlation	-.137*	1
	Sig. (2-tailed)	.044	
	N	217	222

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		analytical	CA
analytical	Pearson Correlation	1	-.007
	Sig. (2-tailed)		.913
	N	217	217
CA	Pearson Correlation	-.007	1
	Sig. (2-tailed)	.913	
	N	217	221

Correlations

		analytical	PIIT
analytical	Pearson Correlation	1	.138*
	Sig. (2-tailed)		.042
	N	217	217
PIIT	Pearson Correlation	.138*	1
	Sig. (2-tailed)	.042	
	N	217	221

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		analytical	CSE
analytical	Pearson Correlation	1	.242**
	Sig. (2-tailed)		.000
	N	217	214
CSE	Pearson Correlation	.242**	1
	Sig. (2-tailed)	.000	
	N	214	219

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations between Explanatory Variables

Correlations

		analytical	NEWAGE	PIIT	CSE
Pearson Correlation	analytical	1.000	-.137	.138	.242
	NEWAGE	-.137	1.000	-.178	-.455
	PIIT	.138	-.178	1.000	.525
	CSE	.242	-.455	.525	1.000
Sig. (1-tailed)	analytical	.	.022	.021	.000
	NEWAGE	.022	.	.004	.000
	PIIT	.021	.004	.	.000
	CSE	.000	.000	.000	.
N	analytical	217	217	217	214
	NEWAGE	217	222	221	219
	PIIT	217	221	221	218
	CSE	214	219	218	219

Multiple Regression Model

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	CSE, NEWAGE, PIIT[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: analytical

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.244[a]	.060	.046	.920

a. Predictors: (Constant), CSE, NEWAGE, PIIT

b. Dependent Variable: analytical

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.258	3	3.753	4.435	.005[a]
	Residual	177.706	210	.846		
	Total	188.964	213			

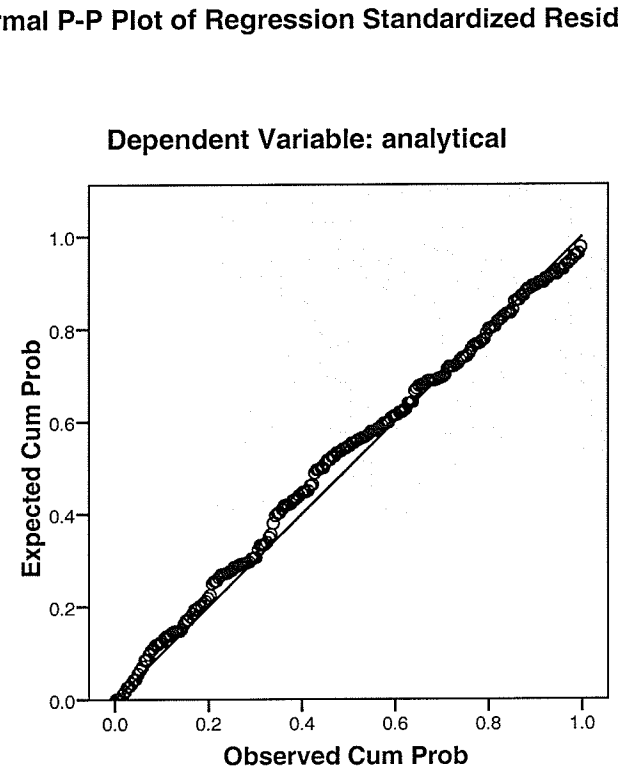
a. Predictors: (Constant), CSE, NEWAGE, PIIT

b. Dependent Variable: analytical

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5.054	.403		12.537	.000		
	NEWAGE	-.003	.005	-.035	-.470	.639	.788	1.269
	PIIT	.013	.054	.018	.232	.816	.720	1.389
	CSE	.081	.033	.216	2.478	.014	.590	1.696

a. Dependent Variable: analytical



Age, CA, CSE, PIIT and Hedonic (browsing-data driven)

Bivariate Analyses

Correlations

		browsing	NEWAGE
browsing	Pearson Correlation	1	-.074
	Sig. (2-tailed)		.278
	N	217	217
NEWAGE	Pearson Correlation	-.074	1
	Sig. (2-tailed)	.278	
	N	217	222

Correlations

		browsing	CA
browsing	Pearson Correlation	1	.172*
	Sig. (2-tailed)		.011
	N	217	217
CA	Pearson Correlation	.172*	1
	Sig. (2-tailed)	.011	
	N	217	221

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		browsing	PIIT
browsing	Pearson Correlation	1	.037
	Sig. (2-tailed)		.591
	N	217	217
PIIT	Pearson Correlation	.037	1
	Sig. (2-tailed)	.591	
	N	217	221

Correlations

		browsing	CSE
browsing	Pearson Correlation	1	.084
	Sig. (2-tailed)		.219
	N	217	214
CSE	Pearson Correlation	.084	1
	Sig. (2-tailed)	.219	
	N	214	219