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The Influence of Costs, Rewards and Social Inertia on Household Evaluation of E-Services

by

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ABSTRACT

Scholars and policy makers studying the 'digital divide' have recently questioned the value of a dichotomous approach based on differences between *haves* and *have nots*. Although there remains a need to study the digital divide in terms of social inequality or social divide, researchers must begin to explore the multiple dimensions of this phenomenon. In this paper, I examine the digital divide using a social exchange framework, focusing on the role of costs, rewards and social acceptance in influencing individual evaluation of Internet content and services. I used two choice experiment surveys to test for the role of costs and rewards as they pertain to the household. After accounting for the known descriptor divides such as age, income, education and gender, I found that urban households value the traditional Internet content more than do rural households. I conclude that cost plays an important role in the valuation of traditional types of Internet content and services and that urban households value content more than their rural counterparts. In the second survey, I accounted for additional variables that influence rural behavior, namely distance from city, distance from community, and rural affinity. I also accounted for constructs that influence adoption of technology, namely availability of alternative access and availability of other communication technologies. I conclude that rewards play an important role when rural households place more value on content made available by a new broadband network than do urban households. I also infer the presence of social acceptance (especially in the form of social inertia) for rural households in cases of particular content. Two subsequent experiments highlighted the role of social acceptance (in the form of social inertia) in the valuation of different

internet content and services. Findings suggest that social inertia causes lowering of willingness to pay for individuals who rate high on collectivism. The social inertia effect is greater in cases involving social goods than it is with private goods. This work highlights the need for an accelerated diffusion of ICTs throughout disadvantageous communities and points to a means for achieving it. Policy makers presently concerned with reducing the cost of acquiring these goods, must also direct their attention to the imminent rewards and social acceptance that consumers associate with internet services/products in question.

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1. Introduction

People's behavior can largely be explained in terms of two dominant interests: economic gains and social acceptance.
John Harsanyi

1.1 Internet Use and the Rural-Urban Divide

In little more than a decade, the Internet has transformed society. Unlike earlier types of Information and Communications Technology (ICTs) such as telephone, radio, television, and video-telephone, the Internet's impact has been expansively multidimensional, felt within social (Kraut et al., 2002), civic (Moy et al., 2005), educational (Mackay & Stockport, 2006), political (Noam, 2005), commercial/economic (Foreman, 2005; Dholakia & Kshetri, 2004), and legislative domains (Ratchford, Pan & Shankar, 2003). The Internet's capability for bringing together existing communication technologies, its facility for driving further technological innovation, and its capacity for spanning the globe have altered the ways that people conduct business, access government services, participate in educational programs, communicate and exchange ideas, listen to music, and even play games: what is more, the Internet allows one to take up residence within a virtual community—to access information, chat, argue, and campaign, to find emotional support, fall in love, dupe someone, and unleash dark desires and impulses (Rheingold, 1993), all *without* physical human contact. In brief, the 'net' has become virtually indispensable to those who choose to use it (Hoffman, Novak & Venkatesh, 2004). As more and more people make that choice, the Internet, as predicted (Cairncross, 1997), is turning the world into a Global Village.

Yet, as more people go online, the gap between information 'haves' and 'have-nots' widens. Hoffman, Novak and Schlosser (2000) call this gap the ***digital divide***. Most studies of the digital divide focus on either household computer ownership or access to, and use of, the Internet. These studies identify several factors that influence a household's ability to access and use ICTs including income (Hoffman, Novak & Venkatesh, 2004; Hoffman & Novak, 1998), education (Hoffman & Novak, 1998), race (Hoffman, Novak & Venkatesh, 2004; Hoffman, Novak, & Schlosser, 2000), gender (Hoffman, Novak & Venkatesh, 2004; Ono & Zavodny, 2003), age (Loges & Jung, 2001), ethnicity (Katz & Aspden, 1997; Hofman & Novak, 1998), and geography (Hoffman, Novak & Venkatesh, 2004; Strover, 1999).

In this dissertation, I examine the digital divide in terms of geography—specifically, the rural-urban split. Hite (1997) defines ***rural*** as remote contexts with inherent economic problems, albeit strong economies of agglomeration. The development of rural regions continues to be a challenge for developing countries and partly developed countries, as well as for many developed countries. Both have and have-not nations, therefore, find themselves addressing the issue of inequities that arise between urban and rural populations. In point of fact, these rural-urban inequities often guide policy makers in their work. For example, Malecki (2003) argues that it is the so-called ***rural penalty*** that drives rural development policy. "Although there are several dimensions of the rural penalty," he writes, "principal among them are a low density of population and therefore a low density of most markets, and greater distance to those markets as well as to information, labor, and most other resources (p. 201)." Policy makers tend to regard Malecki's key dimensions of the rural penalty (low density of population and greater

distance to resources) along with low levels of income and education, and aging populations as critical and key factors in hampering rural development.

In particular, policy makers (Audas & McDonald, 2004; Blake, 2003), have long been concerned with the phenomena of in- and out- rural/urban migration. Rural out-migration occurs when the young and the educated leave rural areas in order to seek education or salaries that can only be found within urban settings. This movement tends to leave rural communities with a relatively large aging population, which places additional pressure on health care, education, libraries, government, and financial services. On the other hand, rural in-migration is often voluntary, motivated by personal and economic factors in combination with a romanticized image of the rural countryside (Barcus, 2004). For some, reality does not live up to the romantic vision; these people often return to urban centers, a movement that serves to exemplify *both* reverse and urban in-migration. In- and out- rural/urban migration is an important concern not only for governmental policy makers, but also for economists (Smith, 1776), sociologists (Johnson & Fuguitt, 2000), demographers (Greenwood, 1975) and geographers (Barcus, 2004; Ravenstein, 1885): at various times all have turned their attention to these phenomena.

Policy makers now regard the Internet as a way to reduce or even eliminate disparities among rural and urban communities (Drabenstott, 2001; Fox & Porca, 2001). The Internet makes ***open access*** possible (meaning that anyone can access anything from, and/or upload anything to, the Internet), and open access levels the playing field (Hoffman & Novak, 1998). Policy makers recognize that the Internet can nullify the distance between central services and the remote rural regions in which many citizens

reside. When distance is no longer a factor, rural regions are likely to maintain steady in-migration and to experience a decrease in out- and reverse-migration. Most research dealing with the digital divide presupposes that access leads to usage (Hoffman & Novak, 1998); consequently, proposed and recently adopted policies geared towards accelerating broadband use seek to enhance access by offering both subsidies for computer hardware and training to members of disadvantaged communities--in this context, those communities designated as rural centres (NBTF, 2001; NTIA, 2001; Servon & Nelson, 2001).

1.2 The Research Problem

Access is a fundamental consideration in any study that examines how and why people purchase Internet content and service; yet, if one's study of access is to produce meaningful results, one must first explore the parameters of the concept, clarify its meaning, and determine the contexts in which such data may be of use. Hargittai (2003) demonstrates that digital inequality can exist among individuals who already have access to the Internet: in other words, even though one can physically access a household computer, it is unlikely that s/he will be able to actually use it if that computer is already engaged by a family member. Hargittai's work suggests that one cannot assume that physical access and use access are synonymous. Since physical access alone does not guarantee use access, I will call physical access ***formal access*** and take ***equal access*** to mean equal-use access—an apt distinction given Hargittai's (2003) identification of autonomy-of-use as a key predictor of online ability. Hargittai's study also calls into question the prevalent meaning attributed to the term 'digital divide,' specifically, that a

'digital divide' must be grounded in a dichotomy of haves and have-nots. Taking Hargittai's concerns into consideration, I felt it appropriate to set aside for now the matter of the polarization of haves and have-nots. Furthermore, while conventional data on access to, and use of, the Internet have enabled social scientists and policy makers to identify the demographic descriptors of the digital divide, this work has had little impact on broadening our understanding of the adoption process and the *reasons* for use. These are critical concerns that have not been adequately addressed by the literature. Thus, for these reasons, my study did not involve compiling conventional access data; instead, it focused on the key issues that underlie adoption and use of the Internet, issues which cannot be satisfactorily addressed by access and use data.

With that in mind, I posed two research questions:

1. *How does the type of content and service available via the Internet influence rural and urban households' evaluation of the Internet?*
2. *How does the social structure of communities (rural/urban) influence the evaluation of Internet content and service?*

First, I considered motivation. Consumers must feel motivated to use a technological product or service before they will purchase it (Barczak, Ellen & Pilling, 1997). Moreover, consumers only become motivated to use such a product/service when they anticipate some sort of positive outcome as a result of that use. In other words, consumers must recognize that positive outcomes are possible and manage to identify them—in this case, the benefits of Internet use (Eastin & LaRose, 2000)—before they will feel motivated to purchase the product and/or service. I will examine the motives of

those who live within, and function as, a single household—that is, the household's motives—and the perceived benefits that induce and sustain those motives in order to explain how and why a household adopts and uses the Internet. Access and use data cannot adequately address matters of motivation and perceived benefits; therefore, I have collected data of a different sort. I have determined the *degree* to which household members are motivated to use the Internet by conducting a cost-benefit analysis of *each type* of Internet content and service used.

Second, I took into account the unique nature of purchase transactions involving the Internet. The Internet is distinct among products and services in the complexity of its content, services and use, and in the role that government and other agencies play in financing its diffusion. In marketing terms, the purchase of Internet access constitutes a ***mixed exchange***. The concept of a mixed exchange involves more than the simple trade of product and/or service for money; it also takes into account the reasons behind and the dynamics of the exchange (the why and the how). This term underscores the complex dual nature of the exchange, the fact that it involves both utilitarian and symbolic aspects (see Bagozzi, 1975a; 1975b). Furthermore, as Bagozzi (1975b) suggests, mixed exchanges do not occur in isolation, but are subject to a host of individual and social constraints—legal, ethical, normative, coercive, and the like. Thus, I have chosen in this study to examine Internet purchase as a social exchange.

Both Warschauer's (2003) and DiMaggio and Hargittai's (2001) work lend credence to my approach. Warschauer (2003) asserts that the term 'digital divide' is a misnomer, less accurate and less telling than the term 'social divide,' while DiMaggio and Hargittai (2001) examine the digital divide in terms of digital inequality among

various social groups of Internet users. Until recently, the literature has focused on how new technology shapes social relations, but as Warschauer (2003) suggests, social relations also shape how technology is developed and deployed. Given the complex and dynamic nature of any two-party social exchange, I have focused my efforts on one party in particular: in this study, I examined the exchange from the perspective of the household; I did not explore the perspective of the Internet Service Provider (ISP).

A social exchange has three important characteristics: the cost of the exchange, the rewards of the exchange, and the social acceptance that leads to either approval or disapproval of the exchange. If I am to examine Internet purchase as a social exchange, I must address the cost of the Internet for households, the benefits of Internet use to households, and the social acceptance of the Internet by households. As with motivation and perceived benefits, access and use data cannot adequately address these issues. Therefore, I have collected data pertaining specifically to those factors that influence a household's evaluation of Internet content and service.

1.3 Household Valuation of Internet Content and Services: Measuring Perceived Value

Houston and Gassenheimer (1987) state that in any exchange the goal in question is the desired consequence, and not the consummation, of the exchange. Accordingly, my quantitative study examined what it is that households identify as the desired consequences of the exchange. Specifically, I measured the households' perceived value for this exchange by quantifying and measuring the perceived value of the hoped-for-consequences. Perceived value, then, functions as the dependent variable in each of three studies that I conducted within this research project.

As one might expect, perceived value can be difficult to measure. First and foremost, all value perceptions are subject to legal, ethical, normative, and coercive constraints. Consequently, perceptions of value are typically unstable and unpredictable. Second, one may perceive value on the basis of any of various criteria. For example, the most obvious criterion is relevance: one perceives value in those products and/or services that have a logical bearing upon one's own life circumstances. As well, value may also be perceived as intrinsic and/or extrinsic (Houston & Gassenheimer, 1987). In other words, one may perceive a product/service to have value in and of itself and/or in association with other products and services. Additionally, value may be perceived as used and/or stored; that is to say, one recognizes in various types of Internet content/service a use-value for the present or a use-value that can be realized only in the future. Although an exchange can carry an actualized value (Bagozzi, 1978)—a value only recognized in hindsight, at some point in the future—when it comes to a household's exchange *intention*, what matters is the value that the household perceives at the time of initiating the exchange. It is only when a household perceives an immediate or future benefit that it is inclined to complete the exchange.

Once the households' perceived values have been identified, one must determine if the sum of all the benefits is greater than the sum of all the costs: in other words, one must conduct a cost-benefit analysis of the goal-seeking behaviour, the households' perceived values for various Internet content and services. In order to do this, one must translate perceived value into monetary value. Social exchange theory provides an appropriate framework for examining goal-seeking behaviour (Thibaut & Kelly, 1959; Homans, 1961; Blau, 1964), but it can also facilitate the process of translating the

intangible content of perceived values into dollars and cents. Once I had quantified all perceived values, I planned to conduct a comparative analysis. A cost/benefit analysis is clearly a useful means for accomplishing this goal. In economic terms, the exchange is said to pass the cost-benefit analysis if the sum of all the benefits is greater than the sum of all the costs.

A household's perceived value for Internet content and services depends, in part, upon the ***type of content and/or service*** made available. Since households perceive value in accordance with perceived relevance—the more relevant the type of content or service to the buyer's needs or desires, the greater its perceived value—and since the Internet provides a myriad of clearly differentiated services and content, it becomes necessary to assess perceived values for *each type* of content and service made available—a considerable task given the tremendous diversity of content and services now available on the Internet. In order to do this, I needed to quantify the value for each type of content and service. Thus, I assessed and quantified, not only overall perceived values, but also the separate values associated with each type of content and service.

A household's perceived value for Internet content and/or services depends, as well, upon the preferred ***type of access***. Houston and Gassenheimer (1987) point out that all exchange is mediated by the available alternatives. A household can gain access to the Internet by means of broadband, dial-up, Wi-Fi, satellite, or cell phone. In addition, many household members can access the Internet from a public site such as an Internet café, school, community center, library, or work place. I recognized as well that household members might have little or no interest in accessing content and services, making "no access" a feasible access alternative. However, Wi- Fi, satellite and cell

phone were not in use during the time of the study. For this reason, I focused on three different means of access—broadband, dial-up, and public site—measuring the value for each type of content and service that had been accessed by these means.

1.4 Method

I used a multi-method approach in this research project, employing in Study 1 and Study 2 the method of Choice Experiment Survey (these studies address my first research question— *How does the type of content and service available via the Internet influence rural and urban households' evaluation of the Internet*?) and, in Study 3, the method of lab experiment (this study addresses my second research question—*How does the social structure of communities—rural/urban—bring about variations in the evaluation of Internet content and service*?)

1.4.a Choice Experiment Survey

Although Internet service is regularly bought and sold in the marketplace, one is likely to find only limited information concerning cost and sales of internet goods and services, and what one does find is often difficult to access; consequently, when it comes to data pertaining to the Internet, standard economic tools that utilize cost/sales information to determine monetary value are of minimal use. Fortunately, economists have been able to develop methods for assessing value that enable one to value non-market amenities in ways that are consistent with the valuation of marketed goods (see Freeman, 2003). These methods take into account both ***stated preference*** and ***revealed preference*** (as indicated by behaviour). In this study, I focused on stated preference,

applying techniques designed to elicit responses (which took the form of ratings, rankings or choices) to specific and predetermined alternatives. There are three general methods that will elicit appropriate responses: conjoint analysis, contingent valuation, and choice experiment.

Conjoint analysis (CA) is the approach most commonly used when the researcher is modelling consumer preferences among multi-attribute alternatives (Green & Sreenivasan, 1990). Using CA, the researcher can determine what combination of a limited number of attributes respondents most prefer. CA can be classified as full-profile, self-explicated, and choice-based. Traditional full-profile CA uses ratings or rankings to estimate relative utilities of alternatives; the self-explicated approach combines attribute importance and attribute desirability in order to estimate overall preference; and, choice-based CA enables one to determine how price and product features influence brand value.

CA does make sense when measuring a limited number of attributes (hence, its typical application in measuring market/choice share for private goods); however, in the valuation of complex nonmarket goods, I had some concerns. For instance, CA focuses on the brand name instead of alternatives; consequently, alternatives remain unlabelled while the brand name serves as an attribute. This can be problematic. For example, respondents may infer from the brand name certain attributes that have been omitted. This can lead to different alternative-specific attribute effects for some alternatives, and possibly violations of the independence of irrelevant alternatives (IIA) assumption (see Louviere, Hensher, & Swait, 2000).

Researchers in economics typically use the stated-preference survey-based method known as Contingent Valuation (CV) for identifying monetary values for non-

market goods such as environmental goods and services (see Carson, 2000). CV can effectively measure the use value of a single service; however, it has limited application when one is dealing with complex goods. Moreover, researchers continue to debate vigorously the reliability of the willingness to pay (WTP) estimates using CV (Carson, 2000).

Fortunately, there is a third approach that is better suited to addressing my research questions—the stated-preference method of ***choice experiment*** (Batsell & Louviere, 1991). Although it originates in conjoint analysis, choice experiment (CE) differs from CA in terms of its theoretical premises, experimental design, and application (Batsell & Louviere, 1991). CE has been used in marketing (Louviere, 1992), transportation (Hensher, 1994) and public policy studies to estimate the use and non-use values of public goods such as environmental goods (Adamowicz et al., 1998), public broadcasting (Finn et al., 2001), and the Internet (Finn et al., 2004). CE has an advantage over both CA (Louviere, Hensher, & Swait, 2000) and CV (Boxall et al., 1996). The researcher using CE can offer respondents sets of competing goods set at different prices (described in terms of attributes) and ask which, if any, the respondents would purchase (see Louviere, Hensher, & Swait, 2000). In this study, I took a random utility theory approach, using stated choices to identify the collective valuation placed upon each choice alternative, and, in the case of each alternative, to identify the value a respondent implicitly assigns to each attribute belonging to that alternative. The CE approach helped me to obtain both an overall valuation of the Internet and perceived values for each type of content and service.

I used data from two choice experiment surveys to answer the first research question—*How does the type of content and service available via the Internet influence a household's evaluation of the Internet/new broadband network?* The first survey enabled me to analyze evaluative data concerning the perceived value of the existing forms of Internet content and services available for Canadians (my sample population consisted of residents in English-speaking Canada). I used this data to test the propositions that I developed in the process of considering Internet content and service within the framework provided by social exchange theory. The second survey enabled the analysis of evaluative data concerning the perceived value of new forms of Internet content and service, specifically those that will soon become available in a populous Canadian province via a new broadband network known as SuperNet (Alberta Supernet, 2006). I used this data to test my propositions as they concern these types of content and services. In the end, the data collected by means of the CE survey helped to identify respondents' underlying motivations for adoption and use of the Internet. Notably, Ida and Horiguchi (2007) employed this method when they compared the willingness to pay (WTP) values (in other words, perceived values) for various public services made available through Fiber-to-the-Home (FTTH) as measured within two areas receiving FTTH: the outlying provincial town of Yawata and the vast urban center of Tokyo city.

1.4.b Lab Experiment

Although the CE survey data helps identify, at a macro level, the differences between rural and urban households in their evaluations of the Internet, it can not be used to test for the role of social structural differences in rural and urban households and their influence in the evaluation of new services; hence, for this purpose I selected another method. Study 3, then, consists of two ***lab experiments*** in which I tested the hypotheses that I developed concerning my second research question: *How does the social structure of communities (rural/urban) influence the evaluation of Internet content and service?* I ran lab experiments rather than conducting surveys because the hypotheses that I was testing required manipulation (for example, one group was primed with social inertia and the other group without social inertia) and the lab experiment gave me greater control. In addition, the purpose of these tests was to provide evidence for behavioral differences; consequently, validity across the population was not critical. The CE survey, though an effective way to estimate the values of individual components of the services, is time consuming and far more expensive. Therefore, in this context, I preferred the lab experiment method to a survey-based method.

Furthermore, in the lab experiments of Study 3, I used the CV method to value content and services rather taking the CE approach. My rationale for this choice is simple. My aim was not to describe the valuation so much as to examine the causes behind it; thus, I did not need to determine the values for each service so much as estimate the overall value that reflected the average value within the population. I was primarily interested in understanding what causes this valuation, not whether or not that value accurately reflects the population. In order to identify the causes that drive valuation, I must keep all extraneous variables constant and control for them. I can do

this by utilizing CV because it permits me to value only one service component at a time, which, in turn, enables me to control for all the extraneous variables that could influence the values. Therefore, in Study 3, I organized two experiments using the CV valuation method as a means for identifying the households' willingness to pay.

Among the various potential effects associated with social structural differences, I tested for the specific role of social inertia in rural households as compared to urban households. I use the term ***social inertia*** to mean a community's tendency to collectively cling to and maintain its current behavioural pattern when evaluating a good or service. As individuals go about making choices concerning how to behave or what to value, they tend to be influenced by the choices already made by members of their community. The physical presence of the community members or the imagined (or implied) presence, or both operating simultaneously works to prompt individuals to choose attitudes and/or behaviours that are in line with the behavior of others. In other words, when an individual becomes aware that a number of his or her colleagues have already responded in a particular way, or when that individual believes that his or her colleagues *would be likely* to respond in a certain manner, she/he is likely to respond in a like manner. As the growing trend becomes apparent to more and more members of the community, the process intensifies and accelerates. This is social inertia in action—multiple individual responses becoming amalgamated into a single "community" response. The existing marketing literature focuses predominantly on how the actual physical presence of the group influences the acceptance or rejection of innovations. To date, no research in marketing has examined social inertia as it develops in response to the implied or imagined presence of the group. Yet an understanding of the effects of social inertia in

response to an imagined community consensus is important and can expand our understanding of the role of social acceptance within a social exchange (Blau, 1964).

Although acceptance and continuance clearly operate on the individual level (in other words, when evaluating a new product/service one may consider only one's own acceptance of the product/service and one's desire to continue or discontinue using it), it is often one's perception of the degree to which the community accepts and persists in using that product/service that unknowingly shapes evaluative choices. Consequently, the perceived value of the group can determine whether or not one continues to use the product/service in question. Indeed, when community members involved in pilot studies designed to gauge the general reception of a new product knowingly responded, not as individuals, but as *representatives* of a community that would later be compared to other communities, their perception of their community's acceptance and continuance of use tended to supercede their own individual views. Therefore, it seems that one's perception of what the community wants, not just one's understanding of what one personally wants, can have a significant impact on determining how one will evaluate the product and/or service. While most would agree that one is apt to accept the group's perceptions when physically surrounded by group members, few understand that the implied presence of the group and it's impact upon the human imagination can be just as potent. Therefore, it is critical that the researcher examine the impact of the imagined or implied presence of the community on the acceptance and continued use of new products and services.

Blau (1964) notes that social approval as a restraining force has less impact within complex (urban) societies than it does within simple (rural) ones. Researchers contend that traditional—rural—residents within any given culture are typically more

collectivistic than nontraditional—urban—residents (Triandis, 1995, p. 38; Georgas, 1989). I examined this rural-urban difference in collectivistic behaviour with the aim of determining the extent to which collectivism influences community acceptance and continuance of use as opposed to individual acceptance/continuance; in other words, does the tendency towards collectivism make acceptance and continuance salient within a rural community? Or does a lack of collectivism make acceptance and continuance salient within an urban community?

Specifically, I examined the interaction between the dynamic nature of self, as seen through the dual lenses of self-categorization theory (Turner et al., 1987) and self-schema theory (Markus & Nutrias, 1986), and the cultural orientation of the people. Although the self-categorization theory and the self-schema theory describe contrasting processes, they both posit self-concept as dynamic in nature, claiming that, to a certain extent, the interaction of the person with the social environment determines the salience of the self (English & Chen, 2007). Self-categorization theory (SCT) suggests that if a particular context drives an intra-group comparison then one's personal identity and acceptance and continuance of use become more salient than the community's. However, if the context drives an inter-group comparison then the salience of individual social identities gives way to the salience of the social group's acceptance and continuance of use. On the other hand, self-schema theory proposes two levels of self-concept: the core self-concept, understood as a stable structure, and the working self-concept, tentative self-conceptions that are dependent upon the prevailing conditions (Markus & Wurf, 1987).

In addition to the dynamic nature of the self, I consider the individual's self-construal as influenced by his/her cultural orientation. In the cross culture literature, the notion of self-concept is described in terms of interdependent self-construal (Markus & Kitmaya, 1991). That is to say, within collectivistic cultures (East Asian) one adjusts one's behaviour to suit the requirements of the in-group members. Thus, the self adjusts to the social environment. As the social context changes, so too does the self: this results in an inconsistent self across differing contexts. However, in individualistic cultures (North American), an independent self-construal occurs; in this case, the self-concept remains stable across differing contexts. However, it is my contention that the stable self-concept associated with North American culture is susceptible to change: as contexts change, so too will the self-concept. Therefore, I propose that, within communities oriented towards collectivistic behavior, the interaction between cultural orientation and the dynamic nature of the self interact will result in greater social inertia. My hypotheses concerning social inertia, then, find their origins in the principles of social exchange theory (Blau, 1964), self-categorization theory (Turner et al., 1987), and self-schema theory (Markus & Nutrias, 1986).

Furthermore, I applied these theories while testing for the role of social inertia in the purchase of Internet content and services. In Study 3, I used two experiments to test my hypotheses. In Experiment 1, I applied a research design that has a categorical variable—Inertia at two levels, Social and Individual—and a continuous variable—Collectivistic Orientation—that are between-subject factors. I repeated this design on four services that represent the four cells formed by the two within-subject factors, Type of Good (Social vs. Private) and Type of Usage (Public vs. Private). The four services

were selected using a pretest. I measured the dependent variable, willingness to pay. In Experiment 2, I substantiated my findings that social inertia has an additional condition of social identity in order to isolate the effects of social inertia obtained in experiment 1. I used a three level categorical variable context—Social Identity, Social Identity with Social Inertia, and Control—along with the continuous variable, Collectivistic Orientation.

1.5 Contribution to the Literature

My work introduces to the field of marketing the concept of social exchange within the context of Internet purchase and use. In this fresh application of social exchange theory, I provide evidence for the need to re-conceive and re-examine the digital divide as a social divide marked by inequality. I also alert researchers to the fact that rich possibilities can be disclosed when one moves beyond the generally accepted scope and perspectives of one's own discipline of study. When the researcher begins a project by considering familiar concerns from unfamiliar perspectives, that is, through a new lens provided by extrinsic and seemingly irrelevant theory, new interpretations, insights, and conclusions become possible. I hope that my dissertation begins a fruitful exploration and application of adventitious theory to marketing contexts.

My work also contributes to the diffusion literature within marketing. I used choice experiment surveys that highlight the role of specific types of content and services in an evaluation of the Internet so as to provide evidence of additional constraints for rural households in the adoption of ICTs and identify ways in which these constraints can be overcome. I show why rural communities value Internet content less than urban

communities *and* provide evidence for an imminent reversal of this trend given that new types of content geared towards the rural consumer and delivered by a new broadband network will soon be made available. A study of any situation in which rural users place greater value on content than urban users is likely to shed light upon how one can accelerate the diffusion of the Internet into disadvantaged communities.

In addition, my work contributes to the marketing literature on the rural-urban digital divide. My work accounts for various types of demographic descriptors of the digital divide (including age, sex, education, and income), along with two measures of distance (one a proxy for agglomeration economics and the other a proxy for transportation economics—major factors in Malecki's rural penalty) and three additional constructs: ***rural affinity***, ***availability of alternative access***, and ***availability of other communication products***. Since my method enables me to isolate rural and urban effects, I provide useful information pertaining to each of these measures. Rural affinity measures the household's affinity for a rural lifestyle regardless of the household's geographical and community setting. The availability of alternative access measures to what extent a household has access to the Internet when away from the home. Finally, availability of other communication products measures the degree to which computer communication and entertainment equipment and/or services are available to the household. I show that the divide in rural and urban evaluations of Internet content and services remains evident even after accounting for all of the above variables, underscoring my point that there is more to the rural-urban divide than the known descriptors.

As well, my work contributes to the development of theory in a number of domains. First, my work impacts the literature on social influences. I provide evidence for social inertia, and its influence, through the indirect or implied presence of the community, on people's evaluative choices. This offers an alternative perspective to that commonly presented in the literature on social influence—that it is the *direct* presence of a person or group that influences evaluative decision-making. Next, I test for the prediction of self-categorization theory with the aim of determining to what extent the North American community context determines the salience of the community as compared to the salience of independent traits. Third, my work adds to the literature exploring social exchange theory. I demonstrate the utility of applying social exchange theory to an examination of the adoption and use of the Internet.

Lastly, my research alerts policy makers to the role that marketing can play in understanding the needs of the population and, consequently, in formulating strategies for rural development within specific communities and within society in general. As one of the first comprehensive studies of the social divide (and its attendant inequality) in the adoption and use of the Internet, my work merits close attention. Although I limit my study to Internet users residing within one Canadian province, the findings can, to a significant degree, be extrapolated to other populations in other parts of the world. Future studies focusing on the social exchange nature of the Internet would do well to examine closely various other services provided by the Internet

1.6 Structure of the Dissertation

In Chapter 2, I begin by reviewing the digital divide literature from a public policy perspective. I then review the literature on the use of social exchange theory in marketing. Next, I review the different social influence theories and critically examine the self-schema and self- categorization theories. This serves as a critical foundation for what then follows: my rationale for applying social exchange theory in this study.

In Chapter 3, I develop the theoretical framework for the household evaluation of Internet content and services. Then, using that framework, I develop a set of initial propositions that I test (discussed in Chapters 4 and 5). In the final segment of this chapter, I describe in detail the methodology that I use and explain my rationale for using this method to meet my research goals.

In Chapter 4, I describe the details of a choice experiment survey that provided my first secondary data set. I also describe the digital divide descriptors that can be used for control purposes. I use this data to estimate the current value of Internet content and services for different households and then, I use the results to test the set of propositions that I developed in Chapter 3. I then explain results and point out implications.

In Chapter 5, I describe the details of a choice experiment survey for a new broadband network. I explain my rationale for including a set of new variables for examination. The data provided by the survey are used to evaluate the value of the proposed new broadband network. Specifically, I use these values to test the set of propositions set out in Chapter 4. The results and implications are explained.

In Chapter 6, I review the literature on rural-urban differences and explain why it becomes important to examine differences between rural and urban households in terms

of differences in collectivistic behaviours. At that juncture, I share the hypotheses that I have developed and which I test (discussed in Chapter 7). In the final segment of this chapter, I describe in detail the methodology that I use and explain my rationale for using this method to meet my research goals.

In Chapter 7, I describe the results from the two experimental studies I conducted. I outline pretest details and report the results from the analysis of the pretest. I then describe the research design for Experiment 1, including the dependent and independent variables, and the scales that I use. I explain the results from Experiment 1 and justify the need for Experiment 2 in great depth. The research design and the results from experiment 2 are discussed. I conclude the chapter with a discussion of the results, the theoretical contributions and the practical implications of these results.

In Chapter 8, I conclude this thesis by summarizing the findings from my various studies. I discuss the findings that support and substantiate the need to re-conceive and re-examine the digital divide as a social divide marked by inequality. Lastly, I explain the role that marketing can play in understanding the needs of the population and, consequently, in formulating strategies for development of society.

2. Literature Review

In this chapter I review relevant theoretical literature from social psychology and marketing, the two strands of theory that I integrate within this study. I apply theory with the primary aim of answering questions related to public policy. A secondary aim is to provide insight for marketing managers who are responsible for online services and new technologies. Ideally, these answers will help policy makers to develop strategies for the betterment of underprivileged groups within our society. First, I review the literature on the digital divide and provide my rationale for examining the issue of digital divide from a marketing perspective. Second, I review the literature on social exchange theory and explain why I examined the inequities associated with the digital divide from a socio-economic, rather than simply an economic, perspective. Finally, I review the literature on social influences upon the individual: this literature will help me to lay the behavioural foundation for the concept of social inertia. I then describe the cause and effect of social inertia on the evaluation of new services.

2.1 The Digital Divide: A Policy Perspective

The first recorded description of the social interactions that can be enabled through digital networking dates back to August, 1962 when J.C.R. Licklider of MIT produced a series of memos in which he discusses his "Galactic Network" concept (cf. Leiner et al., 2003). Although the early Internet was a complex system that required considerable instruction before one could use it, computer experts, engineers, scientists,

and librarians all exploited its possibilites. By the early 90s, the process of commercializing the Internet was well under way: this proved to be highly successful. According to Internet World Stats (2007), as of June 2007, approximately 1,173,109,925 people were using the Internet; this constitutes 17.8 % of the world population. Moreover, since 2000 Internet use has seen a tremendous increase of 225%.

However, as the race to adopt Internet technology continues, a sizable gap is developing between the information haves and have-nots—some refer to this as the digital divide. Hindman (2000) asserts that the inequity in the adoption and use of information technologies is a serious matter in an information-based society, while Hammond (1997) comments that those unable or unwilling to adopt and use information technologies will isolate themselves from what has become the predominant medium for conducting commerce and communication. In the era of digital convergence, the person who refuses to use or access information technologies runs the risk of becoming, from the perspective of the world at large, virtually non-existent.

Given the predominance and significance of Internet use, it is not surprising that both academics (Katz & Aspden, 1997; Mills & Whitcare, 2003) and federal governments in the United States (NTIA, 2000), Canada (Sciadas, 2002) and Australia (Simpson, Daws & Pinni, 2004) have raised policy issues concerning the Internet digital divide. Public policy makers recognize the importance of successfully diffusing these new Information and Communication Technologies (ICTs) throughout underprivileged communities; however, they continue to debate the matter of how best to achieve this aim (National Telecommunications Information Administration [NTIA] USA, 2001; National Broadband Task Force [NBTF] Canada; 2001). Politicians recognize that those living

under difficult circumstances can use technologies to enhance the development of their communities and so reduce the gap between the privileged and the underprivileged (Hoffman & Novak, 1998). Indeed, developing countries that have been using Information and Communication Technologies (ICTs) for many years, are now keeping pace with the industrialized world in the adoption of new technologies (Steinmueller , 2001). Undoubtedly, such leapfrogging strategies have enabled these countries to reduce the economic gap between developing and developed nations (Steinmueller, 2001).

As costs decrease and application possibilities increase, governments look to ICTs as the critical component in their evolving plans to develop underprivileged communities. In order to hasten the adoption of ICTs, governments in the United States (NTIA, 2000), Canada (Sciadas, 2002) and Australia (Simpson, Daws & Pinni, 2004)) have focused on reducing costs by providing easier access to networks. Their reasons for taking this approach rest on the assumption that, as information technology is diffused throughout those communities formerly denied access, there will come to be a uniform distribution of use access and access benefits across both groups, the privileged and the underprivileged. The literature reveals that academics are divided when it comes to the legitimacy of this assumption. On one side, Compaine (2001) suggests that regional differences in Internet use will dissipate over time, specifically in a pattern moving from the core to the periphery of the geographical space. In contrast, Mills and Whitcare (2003) are less optimistic about closing the gap between haves and have-nots when it comes to home Internet use. They argue that the divide is likely to persist as long as there is a gap between the economic well being of the populations within these regions (metropolitan and non-metropolitan). Simpson, Daws and Pinni (2004) provide additional

support for this argument. Based on the result of a case study, they conclude that the government's role should not be limited to providing the Internet connection; rather, it should also concern itself with sustaining the use of the connection.

In general, current literature identifies the following as descriptors of the digital divide: income; education (need); type of family (ages); household location; gender; and, race (for example, see Skok & Ryder, 2004). These studies rely predominantly on access and use statistics gathered from different segments of the population with differential rates of adoption (the effect). But they neglect to examine the *cause* of these differential rates. A *'have now'* and *'have later'* type of study on access and use, I contend, is inappropriate when it comes to examining the digital divide; far more effective is a direct examination of the conditions or circumstances that cause the creation of haves and have-nots. Others share my perspective. Kvasny (2002), for example, conducts interpretative research in his examination of the divide by looking specifically at various dimensions of digital inequality, namely information technology, social, cultural, economic and institutional forces; and Sarkar (2005) finds evidence for social learning or network effects while determining that household Internet price elasticity is non-negligible.

2.2 Exchange Theory

Exchange theory has been a major theoretical focus in social psychology since the 1960s (Blau, 1964; Emerson, 1972; Homans, 1961; Thibault & Kelly, 1959). Social exchange theory addresses three focal issues—costs, rewards, and social acceptance (Blau, 1964). Wide-ranging studies in marketing have investigated the roles of costs and rewards in an exchange (for example, Hirschman 1987; Johnson & Selnes, 2004);

however, the matter of social acceptance (as social approval or disapproval) has rarely been a primary concern. Yet, in the field of social psychology, social acceptance is fundamental to the exchange framework (Homans, 1961). Nye (1982), in discussing family relationships, states that the generalized reward of social approval leads to love, respect, prestige, and admiration. He points out that social acceptance is an important source of rewards (social approval) and costs (social disapproval). Within the literature, studies that examine the social influences—informational or normative—that affect personal decision-making tend to focus on how groups influence the individual to behave in certain ways (see section 2.3). There has been little work done on the ways in which individuals are influenced by imagined or implicit group pressures.

Exchange in marketing has its roots in the 'law of exchange' as it concerns market or contractual exchange as proposed by Alderson and Martin (1965). Kotler (1972) subsequently extended the concept by applying the law of exchange to a commonplace social exchange. However, not until the exhaustive theoretical work by Bagozzi (1975a; 1975b) in the mid-seventies did the concept of social exchange acquire a strong theoretical grounding. Since Bagozzi's seminal paper, numerous studies have examined exchange in both relationship marketing and transactional marketing (see Table 1 which provides an overview of this work by highlighting the key concepts such as power, trust, fairness, distributive justice, emotion, ethics, commitment, communication, and bonding).

In order to hasten and secure adoption of ICTs, governments have focused on reducing costs to households by providing easier access to networks. However, as Hargittai (2003) and Warschauer (2003) attest, cost reduction alone will not accelerate diffusion—although a necessary measure, it is not sufficient. One must also take into

account the rewards and social acceptability associated with establishing access. I studied these factors from a marketing point of view, examining the *Internet Service Provider (ISP)—Household* exchange from the perspective of the household within a framework provided by exchange theory (Bagozzi, 1975a,b). I focused on the basic exchange process and examined the influence of social acceptance upon the rewards and costs associated with an exchange involving the evaluation of a new good. My work focuses on the defensive posture of respondents who, influenced by the imagined and implied presence of the community, wish to maintain the status quo as it concerns community values and norms. I chose social exchange theory as a framework for understanding the household adoption of technology because it allows me to examine the roles played by reward and social acceptance while conceptualizing social acceptance in terms of social inertia. As noted previously, I define social inertia as one's resistance to values and norms that differ from those held by one's home community. In this way, I not only address the role played by reward and social acceptance within this exchange, but I also add to the literature on exchange theory as it pertains to social acceptance—principally social inertia—in the evaluation of new services. I contend that costs, rewards, and social acceptance play critical roles in the *Internet Service Provider (ISP)—Household* exchange, particularly within underprivileged communities (e.g. rural communities), which, because of their homogeneity, are especially susceptible to the pressures of social acceptance.

The literature theorizes that the effects of social acceptance will be greater in economic exchanges involving 'simpler' communities than in exchanges involving more 'complex' communities. In this regard Blau (1964) states that

[s]ocial approval has less pervasive significance as a restraining force in complex societies than simpler ones, because the multiplicity of groups and the possible mobility between them in complex societies enables deviants of nearly all sorts to escape from the impact of community disapproval by finding a sub group of like-minded persons where they can gain approval. (p. 114)

I go one step further and suggest that the simple society is likely to be rural and the complex society, urban. Accordingly, I concentrated on these two groups—rural and urban. The ways in which rural and urban households enact this exchange depends upon the type of content and service (rewards) provided their cost, and the specific effects of social acceptance. Given this premise, I utilize data from two choice experiment surveys, one that asks respondents to evaluate traditional content and services available on the Internet (discussed in Chapter 4), and another that asks respondents to evaluate the more select type of content and service soon to be offered by a new broadband network (discussed in Chapter 5). Using these two studies, I provide evidence for the role of costs and rewards in the households' evaluation of content provided by a new Internet service. These studies also provide insights into the role of social inertia in the evaluation of Internet content and services. However, to have a better understanding of the cause and effect of social inertia, I conduct two experiments (discussed in Chapter 6) that will focus upon social inertia.

2.3 Social Influences

Social influence, as described in the social psychology literature, refers to pressures exerted by the group on the individual. Most group theories consider social

influence in situations involving the physical interaction of group members. Many of these theories (for example, Groupthink: Janis, 1972 and Schafer & Crichlow, 1996; Politeness Theory: Brown & Levinson, 1978; Social Impact Theory: Latané, 1981; Tanford & Penrod, 1984) suggest that social influence increases as a function of the intensity of social contact.

Social influence can be classified as normative (Asch, 1951, 1956, 1966) or informational (Cialdini, 1993). The literature on normative social influence puts forth the argument that group influence depends on social pressure from others, and that this pressure can best be exercised when group members are identifiable (under surveillance) and thus accountable to the group for their responses (Deutsch & Gerard, 1955). This argument finds expression in the literature on social impact theory (Latané, 1981), which claims that social influence increases with the "immediacy" of the group members (their proximity in space or time). On the other hand, the literature on informational influence identifies two types of social acceptance. First, private acceptance occurs when one genuinely believes that, rather than oneself, it is the other person involved in the exchange who is right. This kind of acceptance can lead to permanent changes in beliefs, values and behaviours. Second, public acceptance occurs when one complies with the group's behaviours and expectations out of a fear of being ridiculed or rejected for being different. Hence, one copies the behaviour of others in an effort to gain public acceptance. I extend the literature on informational social influence by focusing on social acceptance as it pertains to the imagined or implied presence of the group. As Allport (1985) asserts, social psychology is concerned with, not only the behavioural effects produced by the presence of others, but also the behavioural effects produced by the

imagined or implied presence of others. In the literature on the influence of reference groups this claim becomes a guiding principle. This literature suggests that social groups can influence the individual even when group members are absent. It also indicates that social groups other than those to which one belongs can have a powerful influence on the individual (French & Raven, 1959; Hyman, 1942).

2.3.a Inertia

The concept of inertia derives from Newton's First Law of Motion, which states that "[e]very body persists in its state of rest or of uniform motion in a straight line unless it is compelled to change that state by forces impressed on it" (Newton, 1726, cited in Koyré & Cohen, 1972). One can extend this dynamic to the psychological domain. Tykocinski, Pittman, and Tuttle (1995), who have conducted studies on "inaction" inertia, admit that it is not surprising that there has been considerably more work devoted to understanding the effects of action than to the effects of inaction; this fact does not point to the insignificance of inaction effects so much as indicate an important area for further research. Inaction inertia occurs when one bypasses an initial opportunity to take action, and in doing so, decreases the likelihood of taking advantage of subsequent and similar opportunities. In the research on habit formation, Murray and Haubl (2007) examine inaction inertia in terms of "cognitive lock-in," a phenomenon that causes one to remain loyal to a product even if objectively better alternatives exist. Moreover, in research dealing with habit-persistence and variety-seeking, Seetharaman and Chintagunta (1998) find that consumers are highly price sensitive and demonstrate strong

displays of inertia. In a marketing context, Zeelenberg and van Putten (2006) examine inaction inertia as it pertains to post promotion dip.

However, the area in the marketing literature that closely relates to my work focuses on the factors that influence an individual's preference for a status quo alternative (inertia) when exposed to a new product or service. These factors have been examined under the broader classification of consumer innovativeness in an attempt to predict the adoption of a new product or service. Innovativeness has been generally examined at the individual level personality construct (e.g. Manning, Bearden & Madden, 1995). Several of its components such as optimal stimulation level, variety-seeking, novelty-seeking, exploratory tendencies, information-seeking, need for cognition, and need to seek a change have been examined (Wood & Swait, 2002). The individual's innovativeness can also be seen as a measure of his inertia, or his preference for a status quo option. These constructs have been examined at the individual level; however, there is no research that examines the dynamics of inertia at a social level within a marketing context.

2.3.b Social Inertia

Social change drives social marketing practice (Andreasen, 2002). Whether one is talking about campaigns against smoking, alcohol, and drug use, or campaigns promoting the vaccination of girls to protect them from the HPV virus, the marketer's goal is to respond to societal perceptions of what it is that constitutes desirable behaviour and then persuade consumers to act in certain ways. When consumers fail to act, the marketer's goals are not attained. One of the reasons why the consumer may fail to act according to the marketer's wishes is social: the presence of social inertia—the

consumer's tendency to maintain current patterns of behaviour. Social inertia commonly develops in response to one's personal perception of a product or service that may, or may not, be influenced by the perceived community consensus regarding that product or service. When it comes to evaluating a particular product or service, in certain contexts it is the perceived community attitudes that have greater influence on the individual's evaluation and subsequent acceptance or rejection of a product and/or service. To date, no research has been conducted examining how an individual's perception of the community's tendency to sustain current patterns of behaviour in relation to particular products or services affect his/her evaluation of the product or service in question. Such research is necessary if we are to expand our understanding of social exchange (Blau, 1964). Since the existing literature focuses predominantly on the issue of acceptance as influenced by the physical presence of the group, there is a need for research dealing with the issue of social acceptance for a good or service as influenced by the imagined or implied presence of the community

I offer a twofold rationale for examining the imagined or implied presence of the group and its impact upon social acceptance. First, since humans are fundamentally social beings, whenever they experience conflict with their social group, they are just as likely, if not more so, to comply with the group's attitudes and practices than they are to act upon their own felt needs and desires. Second, when an individual feels that he/she is functioning as a representative member of a community that will be ultimately compared to other communities, his/her perception of the home community's general acceptance and continued use of the product and/or service will determine his/her evaluation of it. I propose that this effect will be greater in the case of individuals with higher collectivistic

orientation (discussed in section 2.3d). I draw support for this claim from Triandis's (1995) monograph on the defining attributes of individualism and collectivism. One of his defining attributes for collectivism states that collectivists who have personal goals that overlap with the goals of their in-groups, yet remain fundamentally discrepant, will give priority to the group goals over the personal goals. On the other hand, Triandis's complementary defining attribute for individualism states that individualists who have discrepant personal goals that may or may not overlap with the goals of their in-groups will award the personal goals priority over the group goals. I extend the discussion of collectivist and individualist priorities to the evaluation of new products and services. For example, in the case of pilot studies designed to determine a product's market potential, individual participants who regard themselves as functioning in this representative capacity, I contend, will be more influenced by perceived community wants than by their own personal wants. In such a case, one's social identity as a member of the group supersedes one's sense of one's own unique identity, and a perception of community consensus, rather than individual perspective, becomes salient. Given their importance and influence in shaping individual choice, perceived community desires are quite likely to become deeply ingrained in the individual psyche, making the individual subject to them not only when the group is physically present, but also when it is absent.

2.3.c Dynamic Structure of Self Concept

One can best understand social *inertia* by considering it in relation to social *activity*; and social activity is best understood by first examining how humans develop and manifest personal and social identities. Many researchers have examined the dynamic

nature of self-concepts. This has led to a multitude of theories explaining the dynamic nature of the self. In some respects, these theories contradict each other; yet they all posit self-concept as dynamic in nature, and that, to a certain extent, the salience of the self is determined by the interaction of the person with the social environment (English & Chen, 2007). Of these theories, two in particular are relevant to my work: self-schema theory (Markus & Nurius, 1986) and self-categorization theory (Onarato & Turner, 2004). The Self-Schema Theory (SST) posits two conceptual levels: the core self-concept, a stable structure, and the working self-concept, a tentative changing structure of multiple self-conceptions, each dependent upon prevailing conditions at a particular time (Markus & Wurf, 1987). The Self-Categorization Theory (SCT) differs from SST in one important respect. The SCT proposes that self-concept, or one's current self-category, is conceived as a context-dependent cognitive representation (Onrato & Turner, 2004). The SCT distinguishes between personal identity (*pro-self*) and social identity (*pro-social*). In other words, one's personal identity is formed out of interpersonal comparisons with other in-group members (*me* versus *not me*) while one's social identity is formed when one compares one's group (as a collective) to a psychologically relevant out-group (*us versus them*). The SCT predicts that the salience of personal identity will be inhibited to the degree that social identity is made salient, and vice versa—if the context drives an intra-group contrast then personal identity is made salient; if it drives inter-group contrasts then social identity is made salient. In my study, I focused on the pro-social, or social identity; and it is the social identity that drives the dynamic of social inertia.

2.3.d Cultural Orientation

I have described the social psychology literature that focuses on the self and self-concept, especially the dynamic nature of self, which makes it possible for the pro-social self to become salient in a given context; however, I also consider the literature that examines the cultural orientation of self—the cultural differences literature. Although early examples of cultural differences literature applied the concept of individualism in relation to collectivism (I/C) at the level of the nation or culture (Hofstede, 1980), more recent literature operationalizes these constructs at the individual level. Triandis and colleagues (see Triandis et al., 1993) examine them in terms of idiocentrism and allocentrism; Markus and Kitayama (1991) conceive of them as independent and interdependent construals of self; and Cialdini et al. (1999) examine constructs dealing with the individual in relation to the collective at both the cultural I/C and personal I/C levels. Cialdini et al (1999) report that I/C based behavior is best understood as a joint function of cultural and personal I/C orientation. In addition, Heine et al (2002) report that a cross cultural comparison within the same culture (e.g. Canada and Japan) should not be affected by the reference group effect- the effect due to people from different cultural groups using different referents in their self-reported values. Taking a cue from these, I examined the individual's behaviour based on both the dispositional characteristic due to the personal cultural orientation, and the dynamic nature of the self that becomes salient based on the context or stimuli.

The notion of self-concept in cross-culture literature is taken up as an interdependent self- construal (Markus & Kitmaya, 1991). This is a form of self-concept fostered within collectivistic cultures, such as those in East Asia. In such cultures, individuals adjust their behaviours to suit the requirements of the in-group members.

Thus, the self adjusts to the social environment. This leads to an inconsistent self across contexts. However, English and Chen (2007) report that this inconsistency, while maintained across contexts, does not last for lengthy periods of time. On the other hand, in individualistic cultures such as those of North America, the self construes itself as independent; this is a form of self-concept that remains stable across contexts.

Thus, I applied in this study the social psychology literature that focuses on the self and self-concept (the dynamic nature of self which makes it possible for the pro-social self to become salient in a given context) and the literature that examines the cultural orientation of self—the cultural differences literature—in order to understand their implications for public policy. I facilitate this process by considering these two streams of research as one body of research literature.

2.3.e The Interaction of Context-driven Self and Self-construal Due to Cultural Orientation

I do not question the cultural research literature nor its assertion that self-concept is stable within individualistic cultures. Neither do I propose to test the validity of SCT theory. However, in my endeavor to highlight the role of social inertia, I provide evidence that the effects of social identity arising from context (SCT) *and* the individual's inherent culture orientation interact whenever an individual evaluates a new product or service. This interaction is responsible for the greater role that social inertia plays in the evaluation of social goods consumed publicly (context) for communities that tend to be homogenous (cultural orientation). In Chapter 6, I will develop the hypotheses that I tested. The details of the experiment and the results are described in Chapter 7.

3. Conceptualization and Proposition Development: Study 1 and Study 2

The first section of this chapter provides a conceptual framework for the *Household-Internet Service Provider (ISP)* exchange, as well as a number of propositions that I have been able to derive from it. I begin by first outlining the literature that examines reward and cost issues in Internet adoption; then I scrutinize the role that social acceptance plays in an exchange. I examine the specific rural and urban behavioural differences that give rise to social inertia, and finally lay out the conceptual framework that has led me to a number of propositions pertaining to the adoption and use of Internet content and services. In addition, I lay the foundation for testing certain constructs and factors that I propose will have an influence on the exchange.

3.1 Rewards and Costs

When consumers anticipate a positive outcome following the purchase of a service/product, they are more inclined to complete the transaction. The likelihood of a positive outcome serves to motivate the purchasing behaviour and to influence the character and frequency of that behaviour. The satisfaction of a need, the stimulation of an interest, or the pleasure of a practice—all may constitute a positive outcome. Within the context of technological products and services, then, consumers will be more inclined to purchase Internet content and services that they expect will satisfy their needs, stimulate their interests, and/or gratify their desires. In other words, they will *purchase* the content or service if they anticipate making use of it, and they will *use* the service or

access the content if they anticipate that positive outcome (Barczak, Ellen & Pilling, 1997). In the preliminary stage of a purchase transaction, consumers must first recognize that positive outcomes are possible and, second, identify what they are likely to be. Only then will they experience the desire to purchase the product (Eastin & LaRose, 2000). In this research study, I examined the perceived benefits for both urban and rural households and how these perceived benefits serve to motivate the purchase of Internet services. My goal was to explain how and why a household adopts and uses the Internet. Specifically, I conducted a cost-benefit analysis of *each type* of Internet content and service used in the study in order to determine the *degree* to which household members are motivated to use the Internet.

The economic literature examines rewards as they pertain to the communication revolution and the rural-urban digital divide largely from the perspective of the ***global village hypothesis*** (Cairncross, 1997). Within the context of commerce, the global village hypothesis predicts that firms in small cities and rural areas will adopt the Internet more readily than urban firms because the marginal returns from the use of the Internet's communication capabilities will be higher in remote locations or in locations lacking economies of density (Forman, Goldfarb & Greenstein, 2005). This argument—that greater benefits for rural populations prompt faster adoption of the Internet within that sector of society—is central to the global village hypothesis. In other words, the world becomes a "Global Village" because of this fundamental mechanism (McLuhan, 1962). The work of Forman, Goldfarb and Greenstein (2005) supports the global village hypothesis: their investigations determined that rural requests (per capita) outnumbered urban among customers who applied to participate in online services. A large number of

rural customers now use e-mail, browse documents, and passively share documents. Rural customers who use only these basic services can successfully coordinate links within geographically isolated regions. If one extends the scope of the global village hypothesis to households, one can predict that, since the benefits associated with access to and use of Internet content are greater in remote locations, households in rural areas will value Internet content more than households located in urban areas.

One can appropriately apply the global village hypothesis in the case of basic services; however, Forman, Goldfarb and Greenstein(2005) find that in the case of new and complex services one must turn to the ***urban leadership hypothesis***. Within the context of commerce, the urban leadership hypothesis predicts that firms located in densely populated regions, where resources can be pooled and costs kept low, will adopt the Internet more readily than firms located elsewhere. Forman, Goldfarb and Greenstein (2005) examine both the costs of the exchange as they pertain to the commercial adoption of the Internet and population distribution from the perspective of this hypothesis. They find support for the urban leadership hypothesis in the fact that urban dwellers submit scores of complex applications to governing bodies requesting permission to enhance their businesses. By applying the urban leadership hypothesis to households, I predict that urban residents, who are likely to experience lower costs due to the efficient pooling of resources, will value Internet content more than rural residents. In speaking of costs, I refer not only to the straightforward cost of access, but also to the perceived costs of producing the content and services.

3.1.a Social Acceptance

Researchers in marketing have examined the construct of *social acceptance* in terms of social influence and/or subjective norms. The literature on social influence focuses on brand (Algesheimer, Dholakia, & Hermann, 2005), channels (John, 1984), customer loyalty (Dick & Basu, 1994), self-prophecy (Spangenberg & Greenwald, 1999), and technology acceptance (Venkatesh & Morris, 2000). Social influence plays an important role in the diffusion of new products, especially when, in the early stages of its marketing, the consumer encounters an innovative product with which he or she has had little direct experience (Barki & Hartwick, 1994; Taylor & Todd, 1995). In such cases, informational and normative social influences tend to shape consumer attitudes and behaviours. The consumer, who wants to make an informed buying decision, will frequently search out product information in order to expand his or her understanding of the nature and function of the product (Bearden & Etzel, 1982). The informational influence can include the uniformity of prior evaluations, the source of such prior evaluations, and the visibility of the product on the market *or* the consumer's perception that the product is easily identified by others (Burnkrant & Cousineau, 1975). Consumers may also feel compelled to comply with the wishes of others so as to avoid punishment or receive awards (the normative influence). They may adopt individual positions or group views out of a desire to emulate or bond with the reference group. In other words, because consumers see utilitarian value in adopting the norms or attitudes of the social group, they are especially vulnerable to normative influences.

In general, the literature on social influence focuses on the individual's reaction to the referent group's evaluation of the product (Burnkrant & Cousineau, 1975). In such

cases, the individual tends to *actively* adopt behaviours and attitudes. People, however, also respond to social pressures by resisting change, by holding fast to the values and norms of the home community. In such cases, individuals become 'actively-passive'. I refer to this state as social inertia. According to reactance theory, personal freedom is essentially the freedom one feels to abide by the norms and values of the home social group, and resistance is the classic response to threats to that freedom (c.f. Clee & Wicklund, 1980). I suggest that this reactance results in social inertia. Thus, when an individual is ignorant of the social group's opinion concerning a product or service, s/he will likely resist change by refusing to consider the purchase of the product/service. Similarly, if, in making a purchase, the individual must act against the existing norms and values of the community, s/he will likely resist change and also abandon the purchase. Since social inertia and the perceived rewards or benefits associated with an exchange are clearly connected, I used a valuation exercise to determine how social inertia impacts the valuation of different types of Internet content and service.

3.1.b The Internet

Let me once again emphasize that the Internet is unique among products and services in the complexity of its content, services and use, and in the rather extensive involvement of government and other agencies in financing its diffusion. As a mixed exchange (see Bagozzi, 1975a), the commercial exchange of Internet products or services for money (the utilitarian component) must be understood as part of a complex social exchange guided by the participants' reasons for entering into the exchange in the first place (the symbolic component). According to Bagozzi (1975a), social exchanges never

occur in isolation; a host of individual and social constraints—legal, ethical, normative, and coercive—will inevitably shape and condition all social exchanges. It is important for one to recognize that all aspects of my study are grounded in this understanding of Internet purchase as a complex social exchange that goes beyond any simple economic exchange.

As communities and nation-states put Internet technology into service, a gap is developing between those with the capacity to access and use Information and Communication Technologies (ICTs) and those without. This so-called "digital divide" (Hoffman, Novak & Schlosser, 2000) splits social groups on the basis of race, ethnicity, gender, geographical location, age, education, and income (see Hofman & Novak, 1998 ; Hoffman, Novak & Venkatesh, 2004; Katz & Aspden, 1997). Given such categories, Warschauer (2003) calls the term 'digital divide' a misnomer; he prefers the phrase "*social* divide." Researchers have long focused on how new technology shapes social relations; only recently, inspired, perhaps, by Warschauer's (2003) new emphasis upon the potential impact of social relations upon the technology, have researchers taken up how it is that social relations shape the development and deployment of technology. My research, like that conducted by Warschauer, emphasizes the impact of social relations upon technology. Specifically, I have examined Internet purchase as a social exchange by addressing the cost of the Internet for households, the benefits of Internet use to households, and the social acceptance of the Internet by households. I focus my research on urban and rural households and, in doing so, center my investigation on the geographical dimension—the urban/rural split—of the digital/social divide.

3.1.c Rural-Urban Differences—Social Inertia hypothesis

The ***social inertia hypothesis*** that I put forth rests upon the observation that individuals and societies tend toward collectivism. In fact, in cross-cultural research, collectivism serves as one of the dimensions of cultural variability (Hofstede, 1990). Patterns of collectivism operate both at the cultural level—that is, across a culture or cultures (Berry, Poortinga & Pandey, 1997)—and at the individual level (Triandis, 1995). Scholars theorize that urban samples tend toward individualism, while rural samples tend toward collectivism (for example, see Georgas, 1989). In examining the effects of social inertia, I identified two axioms that lie at the heart of the differences between rural and urban households in the adoption of Internet services.

(1) *Individuals tend to conform to the norms of the community.*

The literature identifies three distinct meanings for the word "conformity:" (1) an enduring personality characteristic; (2) an attitudinal change, the result of real or imagined group pressure; and (3) compliance with the will of the group (Mills, 1969). This study focuses on the third meaning: conformity as compliance. The literature on rural sociology shows that social networks among rural residents tend to be smaller, denser, and longer-lived than those among urban dwellers (Beggs, Haines & Hurlbert, 1996); and the cross-cultural research literature indicates that conformity is more pervasive within collectivistic cultures than within individualistic cultures (Bond & Smith, 1996). Succinctly stated, then, rural societies tend more towards collectivism than do urban. Thus, rural inhabitants, who rarely have access to referent groups other than their own social community, are particularly apt to conform to the norms of their own group (Musick et al., 2000).

(2) *Values change and adjust slowly.*

Rural residents are more wary of change and more disposed towards maintaining existing values than are their urban counterparts. They are also more resistant to mass societal change (Carlson, Lassey & Lassey, 1981). Acculturation occurs at both the collective level (the whole group changes) and the individual level (only individuals change; also known as Transculturation) (Triandis, 1995). The collectivist who enters into an individualistic culture tends to have more difficulty adjusting than the individualist who enters into a collectivistic culture (Triandis, 1995). Hence, I conclude that, when confronted with shifting values, rural residents will adjust more slowly than their urban counterparts.

The research suggests that people in rural areas who bond to create a household will behave differently than their urban counterparts. Social inertia is one element that serves to bind the group. The *social inertia hypothesis* predicts that adoption will be higher in rural areas than urban areas when it comes to Internet content that is consistent with existing rural norms; and, that adoption will be lower in rural areas than in urban areas when the Internet content is inconsistent with rural norms. Within my framework, the three forces of rewards (*global village* hypothesis), costs (*urban leadership* hypothesis) and social acceptance (*social inertia* hypothesis) operate concurrently, influencing the household's evaluation of Internet content and services. On the basis of this evaluation, households then adopt or abandon the content/service.

3.1.d Propositions Based on Rewards, Costs and Social Acceptance

Accordingly, one would expect differences between rural and urban households in their valuations of any given content or service associated with internet use. These differences in valuation are the result of the particular interplay of three forces—rewards, costs, and social inertia. (The effect of these three forces for a rural household relative to an urban household is summarized in Table 3.) As well, each force can operate at one of two possible levels: high or low. Hence, multiple permutations become possible as rewards, costs, and social inertia interacts at variable levels. This leads me to put forth the following observations concerning rural and urban differences in the valuation of different types of content and services.

(i) The greater the rewards for a rural household relative to an urban household, the higher the rural household will value the content relative to the urban household.

(ii) The greater the costs for a rural household relative to an urban household, the lower the rural household will value the content relative to the urban household.

(iii) The greater the social inertia for a rural household, the lower the rural household will value the content relative to the urban household.

Notice that Table 3 summarizes the expected direction of the welfare values of a rural household relative to an urban household. To illustrate my propositions, consider the following for cell 1.

In this cell, the content or service is associated with High rewards, High Costs and High Social Inertia. I will assume that all three forces act with same intensity. Therefore, if I were to award a content or service a positive one (1) for a positive valuation effect, a zero

for no valuation effect (0), and a negative one (-1) for a negative valuation effect, the net result for cell 1 would become

1 {1 + (-1) + (-1) = -1. This indicates that rural households value the internet contents/services applicable to this cell less than would urban households. By applying this logic to each of the eight cells within the table and by keeping in mind the three key hypotheses—urban leadership (costs), global village (rewards) and social inertia—I have arrived at the following propositions.

Proposition 1: *Internet content and services that are perceived by rural households to have greater reward, higher costs and higher social inertia will be valued less by rural households than by urban households.*

Proposition 2: *Internet content and services that are perceived by rural households to have greater reward, higher costs and lower social inertia will be valued the same as or less by rural households than by urban households.*

Proposition 3: *Internet content and services that are perceived by rural households to have greater reward, lower costs and higher social inertia will be valued more than or the same as urban households*

Proposition 4: *Internet content and services that are perceived by rural households to have greater reward, lower costs and lower social inertia will be valued more by rural households than by urban households.*

Proposition 5: *Internet content and services that are perceived by rural households to have lower reward, higher costs and higher social inertia will be valued less by rural households than by urban households.*

Proposition 6: *Internet content and services that are perceived by rural households to have lower reward, higher costs and lower social inertia will be valued the same as or less by rural households than by urban households.*

Proposition 7: *Internet content and services that are perceived by rural households to have lower reward, lower costs and higher social inertia will be will be valued less by rural households than by urban households.*

Proposition 8: *Internet content and services that are perceived by rural households to have lower reward, lower costs and lower social inertia will be valued the same as, or less by rural households than by urban households.*

I test for these propositions in Study 1 (Chapter 4) and Study 2 (Chapter 5).

3.2 Other Factors Influencing Rural-Urban Differences

Researchers, policy makers and business people advocate ICTs as a powerful tool for eradicating rural-urban differences. They justify their position by reiterating the generally accepted view that ICTs tend to 'level the playing field.' Although Hoffman and Novak (1998) suggest that open access should, indeed, level that playing field, there has been little research specifically confirming how this might be so. However, social scientists have recently begun to systematically examine the factors that affect access to and usage of the Internet (Katz, Rice & Aspden 2001; Hoffman, Novak & Venkatesh, 2004), as well as the inequities that have become evident. This digital divide literature focuses mainly on socio-economic variables (notable exceptions include Eastin & LaRose [2000] and Konana & Balasubramaniam [2005]). In these studies, the common demographic descriptors of the digital divide are age, sex, education, income, race and

location (for example, see Hoffman, Novak & Schlosser, 2000). In addition, I examined the following constructs as potential sources of influence on the evaluation of Internet content and service.

3.2.a Rural Affinity

I understand the construct of rural affinity as the manifestation at the household level of the rural-urban distinction that lies at the heart of the digital divide. Rural affinity measures the household's affinity for a rural lifestyle, regardless of the household's residential location. It provides a household-level measure of a rural orientation in attitude and practice. I used this measure to control for households that have a strong rural background (for example, a household that has members who were raised on farms or who have previously lived in rural communities). The scale consists of six dichotomous items that represent different levels of the latent trait estimated by using an IRT model. Households that show a greater rural affinity should better appreciate the benefits that the SuperNet provides for rural and remote communities. Therefore, the following was proposed:

Proposition 9: *The 'rural affinity' of a household positively influences the perceived value of the content and services provided by the SuperNet.*

3.2.b Availability of Alternative Access

According to the NTIA report of 1999, nearly 10% of all people discontinued use of the Internet at home (even though they owned home computers) because they were

able to access the Internet elsewhere. This data suggests that convenient access to the Internet from some location other than one's home can act as a deterrent to household Internet use. However, I believe that availability of access at community centers, school or work, can lead to greater familiarity with Internet content and services, which in turn, can bring about greater understanding of the complexity associated with the service as well as the specific user benefits (Eastin & LaRose, 2000). In addition, studies have shown that having access to the Internet generally leads to usage (Hoffman & Novak, 1998); hence, having greater access (at home as well as at school or work) should result in increased general Internet use, including use at home. I used eight dichotomous items and an IRT model to scale alternative access. Therefore, the following was proposed:

Proposition 10: *The 'availability of alternative access' to a household positively influences the perceived value of the content and services provided by SuperNet.*

3.2.c. Availability of Communication Technologies

I used this construct to measure the availability of computer, communication and entertainment equipment or services to the household. I used this variable to control for the difference between experts and novices in the context of exposure to a continuous innovation. Moreau, Lehmann and Markman (2001) use the knowledge transfer paradigm to report that, compared with novices, experts have higher comprehension, report more net benefits, and indicate stronger preferences for continuous innovation. Therefore, I inferred that households owning a variety of other ICTs are more likely to comprehend and value the benefits of the content and services as provided by the SuperNet. I use 13

dichotomous items to scale 'availability of communication technologies' using an IRT model. Therefore, the following was proposed:

Proposition 11: *The 'availability of communication technologies' in a household positively influences the perceived value of the content and services provided by SuperNet.*

3.2.d Other Digital Divide Descriptors

The digital-divide literature in general provides support for the following propositions: first, as age increases, usage of the Internet decreases; second, as income increases, usage of the Internet increases; third, as education increases, usage of the Internet increases; and fourth, males use the Internet more than females (Rice & Katz, 2003; Hoffman, Novak & Schlosser 2000). Therefore, the following were proposed:

Proposition 12: *The age of the head of the household is negatively related to the value of content and services provided by SuperNet.*

Proposition 13: *The education of the head of the household is positively related to the value of content and services provided by SuperNet.*

Proposition 14: *Household income is positively related to the value of content and services provided by SuperNet.*

Proposition 15: *Male heads of households value the content and services provided by SuperNet higher than female heads of households.*

3.2.e. The Role of Distance

McLuhan (1962) was among the first to envision how the media and the new Information and Communication Technologies (ICTs) would transform the world into a "global village." With the advent of the World Wide Web, the vision of open access became a reality—this meant that anyone could access and download or upload any type of content from/to the net. As Hoffman and Novak (1998) note, open access tended to level the playing field. Soon policy makers at all levels of government adopted Internet use as a way to reduce or even eliminate the disparities created by a digital divide. Equally important, the World Wide Web prompted serious reflection upon the perceived role of physical distance in communication technology. Distance no longer seemed relevant. Within this new context, distance premiums no longer made sense. Analysts, in fact, predicted a steep fall in distance premiums. Cairncross (2001) examined the economic and social impact of the changing role of distance within communication in a book titled, *The Death of Distance.* She argued that rapid advances in informational and communication technology, growing globalization and international migration have contributed to making distance inconsequential. More recently, the work of Kshetri (2004) and Ganesan, as well as that of Malter and Rindfleisch (2005), lend additional credibility to the ***death of distance hypothesis***.

Carincross's *death of distance* hypothesis has generated debate within diverse areas of the academic literature. Two camps have emerged—those who uphold the *death of distance* hypothesis and those who insist that distance still matters. Two key studies in the literature provide direct support for the distance-is-dead hypothesis. Kolko's (2000) work on geographical diffusion of commercial Internet use involving domain name

density was one of the earliest studies to support this proposition; and Kshetri's (2004) study on the factors influencing the global diffusion of ICTs provided, in its identification of both negligible and positive effects of distance on Internet penetration, additional support for the distance-is-dead camp. As well, some studies provide indirect support for the Cairncross hypothesis. For example, when Foreman, Goldfarb and Greenstein (2005) report that rural users engage in basic commercial Internet use more readily than urban users, they are implying that distance no longer constrains the commercial activity of rural residents. Furthermore, when it comes to the development of new communications products, Ganesan, Malter and Rindfleisch (2005) maintain that distance matters only under certain conditions involving the interaction between the knowledge provider (research centre) and the firm marketing the new product. Since face-to-face interaction between the knowledge provider and the firm can be replaced, in some cases, by e-mail contact, distance once again becomes negligible. However, evidence does suggest that distance *still matters* for geographical systems (Wang, Lai & Sui, 2003), innovation diffusion (Baptista, 2001), international economics (Disdier & Head, 2004) and transportation economics (Polese & Shearmur, 2004; Rietvald &Vickerman, 2004).

Most of the literature on the death of distance explores the role of distance from the perspective of the firm. Indeed, one can trace back to the 1970s an interest in how distance affects firm marketing. In that decade, Rosenblom (1976) examined the impact of distance and location upon trades across a set area. The trend continued throughout the next three decades with Iyer (1998), who studied distance and location in retail distribution channels, and Gonzalez-Benito, Munoz-Gallego and Kopalle (2005), who examined distance issues pertaining to strategies for retailers. Throughout the literature,

studies dealing with distance and/or location consistently focus on firm-to-firm or firm-to-consumer cost behaviors; I could find no study that directly addressed the way in which physical distance affects how consumers (households) perceive the cost and value of communication technologies, ideas, data, and so on. In an effort to address this gap and to broaden the scope of the death of distance literature, I focused on the importance of distance at the household level. I examine the role of distance from two perspectives (see Fig 1):

(1) Distance between the household's community and a major city

This distance to the nearest major urban center serves as a proxy for agglomeration economics. Marketing studies have examined the issue of geographical proximity mostly with respect to inter-firm relations (for example, Cannon & Homburg, 2001; Ganesan, Malter, & Rindfleisch, 2005). One finding of relevance concerns the relationship between geographical proximity and cost: firms with greater physical proximity incur lower costs due to common externalities. Agglomeration economics would suggest that firms in geographical proximity benefit in terms of cost-effectiveness when they adopt the Internet. Furthermore, current statistics dealing with Internet usage indicate that rural households have less access to the Internet than urban households (US: Pew Internet & American Life Project, 2006; Canada: Singh, 2004). In addition, the higher population density of urban centers means it costs less for suppliers to wire an area (according to Kshetri and Dholakia 2002, high population density has been an important contributing factor in Hong Kong's rapid Internet development). Moreover, higher population density facilitates interaction between adopters and potential adopters, thereby

influencing the diffusion process in a positive manner. In terms provided by the Bass (1969) model, interactions such as these result in a higher "coefficient of imitation." Thus, the less dispersed the household, the lower the cost incurred. Therefore, the following was proposed:

Proposition 16a: *The distance of a community from the nearest major city is positively related to the value of content and services provided by SuperNet.*

Counter Proposition: The counter proposition involves the application of the global village hypothesis with respect to agglomeration economics. In this scenario, nearness to a major city is not an advantage. The global village hypothesis counters the possibility of the population in question experiencing any advantages due to the benefits of the communication technology (here, Internet access and use); therefore, distance should not affect the perceived value of the broadband network. By applying the global village hypothesis, one can predict that there will be no significant distance effects on the value of Internet content and service. Therefore, the following was proposed:

Counter Proposition 16b: *The distance of a community from the nearest major city does not have an effect on the perceived value of content and services provided by SuperNet.*

(2) Distance to (the center of) the closest community

I used this distance measure to capture the effect of household location with respect to transportation costs, land costs, taxes and lifestyle preferences. For example,

some 'urban' households are situated a fair distance from the city center. These household members prefer the privacy and tranquility of the suburbs; they are willing to travel to the city for work and other day-to-day activities, and willing to pay the extra cost of transportation to accomplish tasks such as accessing government services, hospitals, libraries, educational institutions and work. In addition, these households have the advantage of paying lower taxes, and they tend to enjoy lower housing costs. SuperNet content and services (see Finn, & Thomas, 2008) provide greater benefits for these households. A similar argument can be mounted in the case of rural households and communities. In these instances, of course, one is dealing with farmland and rural businesses rather than suburban homes. Therefore, the following was proposed:

Proposition 17a: *The distance between the household and the closest community/city center is positively related to the value of content and services provided by SuperNet.*

Counter Proposition: The counter proposition acknowledges the impact of better transportation and communication facilities. This proposition suggests that increased transportation facilities will reduce the cost of transportation thereby making distance inconsequential. Support for this proposition would provide evidence for the death of distance hypothesis with respect to transportation economics. Therefore, the following was proposed:

Counter Proposition 17b: *The distance between the household and the closest community/city center does not have an effect on the value of content and services provided by SuperNet.*

The final variable that I accounted for is central to my research: even after accounting for all the variables identified above, I propose to find differences between rural and urban households in their evaluation of new services. The new broadband network, SuperNet, provides greater rewards and removes the factor of cost. Although social inertia cannot be discounted, Proposition 3 will still apply: *Internet content and services perceived by rural households to have greater reward, lower costs and higher social inertia will be valued greater than, or equal to, urban households.* Therefore, the following was proposed:

Proposition 18*: Rural households value the content and services provided by SuperNet higher than urban households.*

I test for propositions 9-18 in Study 2 (Chapter 5).

3.3 Methodology –*Choice Experiments*

To test propositions 1 through 18, I used choice experiment as a method for valuing different kinds of e-services. As described in Chapter 1, economists have long used contingent valuation (CV) to value non-market goods (see Mitchell & Carson, 1989) such as environmental resources (Adamowicz et al., 1998). The CV method allows one to estimate values for single events such as an oil spill (for example, see Carson et al., 2003)

or for single services such as a vast public broadcasting service (see Delaney & O'Toole, 2004). However, CV values a single service in isolation; hence, it has limited use when dealing with a number of services that combine to form a non-market good. However, researchers have begun to use choice experiments (CE) to estimate the value of non-market goods (Alpizar, Carlsson & Martinsson, 2003). One sets about conducting CEs by treating the components of a service as the 'attributes" of the choice alternatives. For example, Finn, McFadyen, Hoskins and Hupfer (2001) demonstrate that a CE can be used to quantify the use and non-use value afforded by the components of a complex government service such as the portfolio of services that are provided by a public broadcaster. Finn, McFadyen and Hoskins (2003) found that Sports, National News, Canadian Drama, and Canadian Comedy TV programs were the major contributors to the use value of the Canadian Broadcasting Corporation for English-speaking Canadians, while French-language radio programming was the major detractor. Moreover, Finn, McFadyen, Adamowitz and Hu (2004) use a CE survey to estimate the use value Canadian households assign to high-speed (broadband) access to approximately a dozen different types of Internet content and services. In a CE, respondents are initially offered sets of competing goods, described in terms of attributes, at different prices; they must then respond by indicating which, if any, of the goods they would purchase (see Louviere, Hensher & Swait, 2000). Using a random utility theory approach, one can use the stated choices to identify the collective valuation placed on each choice alternative, with a value implicitly placed on each attribute of each alternative.

Random Utility Theory (see Louviere, Hensher & Swait, 2000) postulates that the ith household respondent has an unobservable, latent preference or utility, U_{ij}, for the jth

alternative amongst a choice set, C, of offerings. The latent utility can be expressed as the sum of an observable (explainable) component, V_{ij} and a random (unexplainable) component e_{ij}. In turn, V_{ij} is an additive indirect utility function of its attributes, including SuperNet scope and content and the e-services components X_{ij}, household characteristics, S_i, and payment, P_j,

(1) $U_{ij} = V_{ij}(X_{ij}, S_i, P_j) + e_{ij}$

Respondent i will choose alternative h rather than j if $U_{ih} > U_{ij}$ Hence,

$P_{ih} = \text{Prob}(U_{ih} > U_{ij} \text{ for all j in C, } j \neq h)$

(2) $= \text{Prob}(V_{ih} - V_{ij} > e_{ij} - e_{ih}, \text{ for all j in C, } j \neq h)$

Making the IID assumption that the errors are independent and identically distributed Gumbel random variates, one derives the well-known and widely applied MNL choice model; it follows that the probability that respondent *i* will choose alternative h is:

(3) $P_{ih} = \exp[V_{ih}] / \Sigma_{\_\square\_} \exp[V_{ij}]$

where, if

(4) $V_{ij} = \alpha + \Sigma\beta_k X_k + \Sigma\beta_s S + \beta_p P$

the probability of respondent i choosing alternative h from a choice set of alternatives can be obtained by substituting in scope and content and e-services components (X_k), household characteristics (S) and payment levels (P) into the estimated utility function. The IID assumption means the relative odds of choosing one of two alternatives remains the same no matter what other alternatives are also available. Initial model estimation was carried out using the Nlogit module in Limdep. The model was specified to account for the choice between unlimited high speed access (High speed), dial-up phone access

(Dial-up) or relying on work, school or other access (Other access) relative to the base option of 'Wouldn't want access' (None) in terms of the scope of the monthly payment, the various types of content and e-services, price, and alternative specific constants.

4. Study 1: Role of Costs in Existing Internet Content

In this chapter I report the results of my first study, conducted on pre-existing and available data with the aim of testing some of the propositions proposed in Chapter 3. I briefly describe (a) the data set I was able to utilize, (b) how the propositions can be applied to this data, and (c) the method that I have adopted to analyze the data and report the results. I then discuss the results.

4.1 Propositions

In Appendix 1, I identify the various types of current Internet content included in this secondary data set. Table 2 categorizes each type of content and service under rewards, costs, and social acceptance and Table 3 summarizes the propositions. As Table 2 indicates, various types of content and services fall under one of six headings: rewards (High, Low), costs (High, Low), and, social inertia (High, Low). Note that most present-day content and services fall in the top half of the table (high social inertia). Since, at the time of this study (April, 2002), there were no mechanisms in place to mitigate social inertia, I consider social inertia to be high for all types of content and services provided to rural households. Focusing on the upper four cells within the table, the following propositions are applicable to this data set:

Proposition 1(I): *Internet content and services perceived by rural households to have greater reward, higher costs and higher social inertia will be valued less than urban households.*

This proposition pertains to education, training, career, and job sites.

The *global village* hypothesis predicts that rural households will associate greater reward with access to educational and job-related content than will urban households. Since rural residents have fewer educational and occupational resources at their disposal, they are apt to assign greater value to Internet content of this type. (However, urban households perceive greater reward with access to brick and mortar educational centers than do their rural counterparts.) The *urban leadership* hypothesis predicts that the cost for designing and producing content and services for a rural audience will make costs higher for rural households than for urban. Since it is more economical to target the majority than the minority, career, job, education, and training sites currently cater to the urban population. Despite the perceived rewards, rural households are apt to value educational services less than urban households because of both the higher costs and the effects of social inertia.

Proposition 2(III): *Internet content and services perceived by rural households to have greater reward, lower costs and higher social inertia will be valued greater than or equal to urban households.*

This proposition pertains to online shopping services and government and public sector sites.

An analysis of online shopping services and government and public sector sites suggests support for the *global village* hypothesis: that is, rewards are greater for rural households. Obviously, rural households have fewer choices when it comes to shopping; Internet shopping sites increase their shopping options and offer an effective alternative to shopping in person. Indeed, Internet shopping options multiply daily due to the economy of scale. Since establishing an online store is less costly than constructing a commercial building, Internet shopping sites are likely to outnumber brick and mortar stores. With this type of content, rural households perceive greater benefits than do urban households. This argument also holds for government and public services. Rural dwellers typically must travel farther than urban residents in order to access a government office. Therefore, they perceive more benefits from online government and public content/services than do urban residents. Service providers design sites of this nature to appeal to the general population (that is, single sites are accessed by both rural and urban residents), so costs for urban and rural consumers are equal. Since cost is not an issue in this case, I considered only rewards and social inertia. Rewards are greater for rural households, and rural settings are particularly prone to social inertia; therefore, rural households will either value shopping and government sites as much as, or more than, urban households.

Proposition 3 (V): *Internet content and services perceived by rural households to have lower reward, higher costs and higher social inertia will be valued less than urban households.*

This proposition pertains to the following types of internet content: 1) portal, directory and search; 2) news and information; 3) entertainment and games; 4) online banking, investment and financial services; 5) travel and tourism; and 6) sports.

I proposed that rural households will anticipate fewer rewards with these types of content. My argument rests upon two considerations. First, costs are lower when businesses attend to the needs and interests of the majority. According to the *urban leadership* hypothesis, economies of scale dictate that providers cater to the largest segment within the population. Hence, sites offering information of the sort identified above tend to address the urban majority. Second, rural residents have fewer interests that take them beyond their group and fewer needs that cannot be satisfied by members within their group. Consequently, they assign less value to global content that do urban residents. Urban households are typically more cosmopolitan and more inundated by media coverage than rural households. As a result, they acquire keen interest in national and global issues. Consequently, they place greater value upon content of this type. Given the global village hypothesis—specifically, the premise that rural areas lack the resources and information that are available within urban settings—one might assume that rural residents would find any Internet content valuable as long as it was presented in an agreeable fashion. I contend, however, that urban residents, because of their greater exposure to global issues, will value content of this sort more than will rural residents.

Proposition 3a (V): *Rural households place less value on the overall content currently available via the Internet than urban households.*

The current content and services available through the Internet can be categorized within the cells of fewer rewards, higher costs and higher social inertia (see Table 2). Rural households anticipate fewer rewards from overall Internet content and services because providers design these sites to satisfy the interests and meet the needs of the urban household. Rural residents find that their needs and interests are ignored. Currently, the per-person cost of producing rural-specific content is greater than for producing urban-specific content (due to the *urban leadership* effect). This situation is unlikely to change anytime soon. Therefore, rural households will value overall content and services less than will urban households.

Proposition 4 (VII): *Internet content and services perceived by rural households to have lower reward, lower costs and higher social inertia will be valued less than urban households.*

This proposition pertains to adults-only and sexually graphic sites.

Social acceptance plays a significant role in the adoption of Internet use for the purpose of accessing adults-only sites. Based on the *global village hypothesis*, rural residents *should* associate greater benefits with such content than urban residents, since city dwellers can access similar kinds of 'entertainment' through other means and venues. Yet, this is not the case. The homogeneous nature of rural communities causes rural residents to seek greater social acceptance from their peers than is the case with urban residents. Thus, when rural communities ascribe to the belief that it is socially unacceptable to access such material, the rural resident feels more compelled than his/her

urban counterpart to credit such a belief. In brief, social acceptance plays a greater role in insular rural settings than it does in diverse urban settings. Consequently, rural households will assign less value to this type of content than will urban households. When it comes to adults-only services, the cost of adoption is the same for rural and urban areas. Since cost is not an issue, *urban leadership* effects become negligible. In other words, when dealing with adult 'entertainment' content and services, the *global village* hypothesis fails, not because of *urban leadership* effects, but because of the greater impact of *social acceptance* upon rural households. Despite the fact that overall online click rates are higher for adult sites than for other types of content (Blum & Goldfarb, forthcoming), powerful social pressures, among them social inertia, prompt rural residents to place less value on these sites.

4.2 Data, Method and Analysis

This study takes advantage of data collected by Finn, McFadyen, Adamowicz and Hu (2004) using a choice experiment (CE) survey. In their study, the researchers randomly assigned a sample of 1600 households from English-speaking areas of Canada into two groups of 800. 412 households returned completed surveys, while 400 packets came back as non-deliverable. (see Finn, McFadyen, Adamowicz & Hu [2004] for the CE and data collection details). Of the 412 surveys completed, 364 contained data useful to my purpose and relevant to our research questions. Choice experiments offer respondents sets of competing goods with descriptions of each product's attributes and price. Based on this information, respondents indicate which, if any, of the goods they

would purchase (for an introduction to choice experiment methods see Louviere, Hensher & Swait, 2000). The CE survey asked respondents to choose among four options (acknowledging that service providers offer different combinations of content and services): high speed access at higher prices; dial-up access at lower prices; relying on other access sites; or declining all access to the Internet. Taking an approach based on random utility theory (see Chapter 3), I used the choice responses to identify the collective valuation of each good. I applied the parameter estimates to determine the value of various types of Internet content.

To test the propositions, I classified households as rural if they were located outside of metropolitan areas—populations of 100,00 and more as designated by Census Canada—and outside census agglomerations—populations of 10,000 and more. I conducted a model estimation using the Nlogit module in Limdep. I specified the model to account for the choice made among unlimited high speed access (High speed), dial-up phone access (Dial-up) and a reliance upon work, school or other access (Other access) relative to the base option of "Wouldn't want access" (None) in terms of the various types of content, price, selected demographics, and alternative specific constants.

4. 3 Results

After running the multinomial logit (MNL) choice model on the full sample, I obtained some notable results (see Table 4). I report model coefficients and significance for each type of content and demographic for each of the three Internet access options, and note that the price of access has a strong negative effect on the probability of choice. Because of this I was able to use choice model parameters to calculate the welfare values.

As well, demographic descriptors, specifically age, sex, income, education and community, are all significant at the level of 0.10 when it comes to High Speed Internet access (in fact, of all these, only community is not significant at the 0.05 level). These findings fall in line with the literature on the digital divide and its specific descriptors. However, my study demonstrates that the effect of community size (rural-urban) is also significant, even when one controls for demographic effects. (I describe this in detail below.) I also identify a strong negative relationship between age and the probability of choosing any one of the three forms of Internet access, and a positive relationship between education and the probability of choosing any one of the three forms of Internet access. Furthermore, income has both a positive and significant effect upon high-speed access, but not a significant effect upon dial-up and other access options. In addition, males are significantly more likely to choose both high speed and dial-up forms of access. Finally, community size is strongly positive for high-speed access and dial up access, but negative and not significant for other access options.

Using the three sets of parameter values obtained for urban and rural households and the overall population, I determined welfare values. Standard deviations of the estimates are obtained by simulating the measures 5000 times out of a multivariate normal distribution composed by the covariance matrix of the estimated coefficients from the MNL model. Table 5 notes the welfare value estimates for the overall population, the urban population and the rural population. Urban households value overall Internet content and services at $57.50, whereas rural households value it at $17.54. This finding is consistent with Proposition 3a: *Rural households place less value on the overall content currently available via the Internet than urban households.* I also find support for

Proposition 1: *Internet content and services perceived by rural households to have greater reward, higher costs and higher social inertia will be valued less than urban households.* This proposition pertains to education, training, career, and job sites. This becomes evident from the values for individual types of Internet content and services, specifically education, training, career, and job sites. In this case, the difference between urban ($6.22) and rural (-$7.00) is significant. In the case of Proposition 2—*Internet content and services perceived by rural households to have greater reward, lower costs and higher social inertia will be valued greater than or equal to urban household*— the differences between urban and rural in the case of online shopping (urban, $11.81; rural, $16.03) is significant and in the expected direction. However, in case of government sites, I find, contrary to the predictions, that rural households value it slightly less than urban households (urban, $2.56; rural, $2.27); but this difference is not significant. In the case of Proposition 3— *Internet content and services that are perceived by rural households to have fewer rewards higher costs and higher social inertia will be valued less by rural households than by urban households*—I find evidence in the value equivalents of portal, directory and search sites: urban, $23.33; rural, $5.99. In case of news and information (urban, $31.67; rural, $22.21), entertainment and games (urban, $2.78; rural, -$4.40), travel and tourism (urban, $8.64; rural, $5.45), and online banking, investment and financial services (urban, $13.33; rural, $7.33) I find similar results and the differences are significant. Additionally, I find negative values associated with sports content (urban, -$5.83; rural, -$2.99); furthermore, the values are contrary to my prediction and the difference is significant. The data led to a surprising departure from Proposition 4: *Internet content and services that are perceived by rural households to*

have fewer rewards, lower costs and higher social inertia will be valued less by rural households than by urban households. With respect to adults-only content, I did not anticipate negative values from *both* rural and urban households: urban, -$28.36; rural, -$16.90. The difference here is significant. I can only speculate why it is that households assign a highly negative value to adults-only content and services. Assuming that the study-households were comprised of both adults and children, perhaps parent/guardians intended to shield their charges from sexual content; or perhaps household members, understanding that the general population disapproves of pornographic content, deliberately understated their interest.

4.4 Discussion

The evidence from this study draws attention to the role of costs and rewards in the *Internet Service Provider (ISP)—Household* exchange. First, based on the values assigned to traditional Internet content and services, society has yet to achieve the vision of the Global Village. Second, the urban leadership hypothesis has relevance for most types of Internet content, as well as for overall valuations of content and services. Third, social inertia impacts decision-making regardless of the type of Internet content and service. Indeed, this data upholds the social inertia hypothesis more than it does the global village hypothesis. In other words, social acceptance plays a larger role than rewards in shaping adoption behaviours. In the following study, I predicted that the perceived rewards associated with new and innovative Internet content would be greater than those associated with current Internet content and services. Specifically, I

considered content geared towards the rural population that will soon become available via SuperNet.

5. Study 2: The Role of Rewards in New Proposed Content and Services

In Study 2, I examined a case in which greater perceived rewards for content and services that will soon be offered through a new broadband network called the Alberta SuperNet prompt higher evaluations by rural households (Alberta SuperNet, 2006). To ensure that all rural residents, schools, hospitals, libraries, government buildings and municipalities within the province of Alberta, Canada, have access to IP broadband connections and vital health and educational services, the Government of Alberta has invested $193 million into the Alberta SuperNet project. Approximately 4,700 facilities in 422 communities across Alberta will have access to this network and both public service (e.g., e-Health, e-Learning) and private-good content (e.g., news, information, and adults-only material; see Appendix 2). In this study, I applied the propositions I developed in Chapter 3 and tested them.

5.1 Propositions

SuperNet content and services occupy only 3 cells in Table 3: rewards, costs, and social acceptance. This fact prompts three propositions.

Proposition 1 (II): *Internet content and services perceived by rural households to have greater reward, higher costs and lower social inertia will be valued the same as, or less than urban households.*

This proposition pertains to family entertainment and online games sites.

This proposition comes directly from Study 1. Since e-entertainment services are more relevant to an urban environment than to the country, Internet content of this type offers fewer rewards for rural households than it does for urban. Furthermore, costs are higher. The only difference between the data set as initially collected and the data set as used in Study 1,is the passage of time (2002 to 2005). As I moved towards Study 3, I predicted that the social inertia effects will prove to be less intense than they were in Study 1. Hence, rural households will value family entertainment and online game sites either equally or less than urban households.

Proposition 2 (III): *Internet content and services perceived by rural households to have greater rewards, lower costs and higher social inertia will be valued the same as or more than urban households.*

This proposition pertains to the following SuperNet content and services: 1) e-learning, 2) e-government, 3) e-disaster, 4) e-health, and 5) e-libraries.

Services and content to be made available on the SuperNet fall into one of two categories: public or private. Public services such as e-health, e-learning, e-disaster, e-libraries and e-government offer obvious benefits/rewards to rural households and, according to the *global village* hypothesis, will be valued more by rural households than by urban. Within our framework, cost is not an issue. The Alberta government designed these sites with both urban and rural households in mind, and plans to cover all implementation and maintenance costs. Taking into consideration only rewards and cost,

therefore, one might predict that rural households would value these services more than urban households. Yet, such a prediction would be proven incorrect. Social acceptance, in the form of social inertia, alters the outcome. Consumers recognize that adopting the SuperNet will necessitate a major change in their current practices in these areas. Based on the social inertia hypothesis, consumers will resist this change. Given the greater rewards, lower costs and greater social acceptance, rural households will value this type of content and service the same as, or more than, urban households.

Proposition 2a (III): *Rural households will value the overall content currently available via the SuperNet more than will urban households.*

The provincial government provides all the public content and services that will be placed on the SuperNet; consequently, costs for urban and rural households will be identical. In this case, the active role of government mitigates *urban leadership* effects. Public domain services on the SuperNet offer greater benefits for rural households than for urban. Private content and services also favor rural residents. Considering that rewards are greater, costs the same, and social acceptance (social inertia) effects lowered in the case of certain contents, I proposed that rural households will value overall SuperNet content and services the same as, or more than, urban households.

Proposition 3 (IV): *Internet content and services that are perceived by rural households to have greater rewards, lower costs and lower social inertia will be valued greater than urban households.*

This proposition pertains to 1) e-mail, instant messages and online chat, 2) e-file transfer, and 3) e-shopping, online transactions and financial services 4) e-business opportunities, and 5) e-work..

This proposition as it pertains to e-shopping, online transaction and financial services, derives from Study 1. I expected the combination of the two services from Study 1 (Online shopping services and Online banking, Investment and Financial Services) to have greater rewards for rural households in comparison with urban households. However, the effect of social inertia will be lower in Study 2 since the passage of time dissipates its effect. In addition I expected the services of e-mail and e-files to provide greater rewards to rural households given the disadvantages associated with their remote location. The effect of social inertia will be lower in this case, too, since these services are in use for a reasonable period of time. The effects of costs are negligible because the contents are applicable to both rural and urban households. In addition, regarding the private SuperNet content and services (e-work, and e-business opportunities), according to the *global village* hypothesis, the perceived benefits associated with these services will be greater for rural households than for urban. Since providers design these sites for anyone who wishes to access them, costs remain the same for both rural and urban consumers. And the social inertia is low since these services in different forms are in use for a reasonable period of time. Thus, urban leadership effects are negligible. Hence, rural households will value such content/services higher than urban households.

Proposition 4 (VI): *Internet content and services that are perceived by rural households to have fewer rewards and lower costs will be valued less by rural households than by urban households.*

This proposition pertains to Online News and Information content.

The rewards for rural households having access to this type of content are not higher than urban households because rural households can meet their need for news and information through local informal channels. In addition, the costs will be higher given the higher costs associated with developing and placing rural-specific information online. In the case of social inertia, I expected there will be little effect, as these services have been available for a reasonable period of time.

Proposition 5 (VII): *Internet content and services that are perceived by rural households to have fewer rewards, lower costs and higher social inertia, will be valued less by rural households than by urban households.*

This proposition pertains to adults-only and sexually graphic sites.

In this case, I repeated Study 1, anticipating that rural households would value content such as this less than urban households.

5.2 Data, Method and Analysis

Once again, employing the framework of three concurrently operating hypotheses—*global village, urban leadership,* and *social acceptance*—I used data

collected from a household CE survey to find the values that Albertan households place on the various types of SuperNet content/services. The researchers had conducted this CE survey for the express purpose of identifying the value that households would place on the SuperNet as both a public and a private good; therefore, the date proved relevant and useful to this study The choice experiment manipulated sixteen factors, namely the availability of thirteen types of Internet content and services (see Appendix 2 for specifics), the purchase prices of high-speed and dial-up Internet access, and the scope of the benefits being assessed. Network developers used two focus groups, one comprised of rural consumers, the other of SuperNet designers, to help them select network content that would meet the demands of a rural household. The survey asked respondents to choose among high-speed access at higher prices (monthly payment options of $59.95, $49.95, $40.95, $32.95, $25.95 and $19.95), dial-up access at lower prices (monthly payment options of $11.95 and $5.95), relying on other access sites such as the local library, or having no access at all.

549 households returned surveys, responding to at least one of the questions. Of these, 460 provided information for all of the variables: income, age, education and gender. Based on the urban/rural population distribution statistics of 2005, 144 came from rural households and 316 from urban. I carried out a model estimation using the Nlogit module in Limdep, and specified the model to account for the choice among unlimited high-speed access (High-speed), dial-up phone access (Dial-up) or relying on work, school or other access sites (Other access) relative to the base option of "Wouldn't want access" (None) in terms of the various types of content, price, selected

demographics, and alternative specific constants (see Finn & Thomas [2008] for further details)

5.3 Results: Propositions 1 through 8

5.3.a Findings

In Table 6, I show the results from the multinomial logit choice model as run on the full sample. I report model coefficients and significance for each of the types of content and demographics and price for each of the three access options. First, the price of access has a strong negative effect on the probability of choice; because the effect was negative, I was able to use choice model parameters to calculate the welfare values. Second, the demographic descriptors age, income, education and community (but not gender) are significant at 0.05. This is in line with results noted in the literature. I found a strong negative relationship between age and the probability of choosing any one of the three forms of access, and a positive relationship between education and the probability of choosing any one of the three forms of access. Furthermore, the effect of income in the case of high-speed access is positive and significant, but in the case of dial-up and other access it is not significant (this also proved to be the case in Study 1). As well, gender has no significant effects with regard to high-speed and dial-up access, but a significant effect in the case of other forms of access. Finally, community size is negative for high-speed access and dial-up access, but positive for other access. In brief, the more isolated the rural household, the more the members value SuperNet content and services.

Using the three sets of parameter values obtained for urban households, rural households, and overall population, I established welfare values. Then I obtained standard deviations of the estimates by simulating the measures 5000 times out of a

multivariate normal distribution composed by the covariance matrix of the estimated coefficients from the MNL model. Table 7 shows the welfare value estimates for the overall population, the urban population and the rural population. In accordance with the exchange theory framework, and in contrast to Study 1, which dealt with traditional forms of Internet content and services, rural households value the overall content and services of the SuperNet at $53.7, while urban households value it at $28.61 and this difference is significant. This finding is consistent with Proposition 1a.

In the case of e-entertainment, I find evidence for Proposition 1—*Internet content and services perceived by rural households to have greater reward, higher costs and lower social inertia will be valued the same as, or less than urban households.* Rural households value e-entertainment lower than urban households (urban, $5.70; rural, $2.64) and the difference was significant. In the case of Proposition 2—*Internet content and services perceived by rural households to have greater rewards, lower costs and higher social inertia will be valued the same as or more than urban households*—I find evidence in the case of e-learning (urban, -$0.42; rural, $3.39), e-government (urban, $2.44; rural, $6.38) and e-libraries (urban, $ 2.49; rural, $4.29), and the difference was significant. However, in the case of e-disaster (urban, $ 2.13; rural, $0.93) and e-health (urban, $8.00; rural, $1.85) urban households value these significantly more than rural households.

I find evidence for Proposition 3—*Internet content and services that are perceived by rural households to have greater rewards, lower costs and lower social inertia will be valued greater than urban households*—in the case of e-mail, instant messages/online chat, and e-file transfer. Rural households value e-mail (urban, $10.70:

rural, $14.46), e-business opportunities (urban, $0.50; rural, $9.49), e-work (urban, $0.78; rural, $3.42) and e-files (urban, $1.94; rural, $7.31) higher than urban households. However, in the case of e-shopping, online transactions and financial services, contrary to our predictions, urban households value these services higher than rural households (urban, $14.48; rural, $7.97).

I find directional evidence to support Proposition 4—*Internet content and services that are perceived by rural households to have fewer rewards and lower costs will be valued less by rural households than by urban households.* The welfare estimate of online news and information content is valued higher by urban households (urban, $1.59; rural, $0.99), but the difference is not significant.

The results for Proposition 5— *Internet content and services that are perceived by rural households to have fewer rewards, lower costs and higher social inertia, will be valued less by rural households than by urban households*—are similar to those found in Study 1. The welfare estimates for both rural and urban households are negative for online adults-only content (urban, -$6.71; rural, -$1.58) and the difference is significant. Once again, I expected that urban households would value this service more than rural, and once again, I was mistaken.

5.3.b Discussion

The results from Study 2 highlight the greater influence of social acceptance (social inertia hypothesis) and rewards (global village hypothesis) in the *Internet Service Provider/ SuperNet—Household* exchange. Social inertia had less influence in the valuation of e-learning, e-disaster and e-work than I had expected. Still, social inertia

effects surpassed global village effects in other cases (for example, with e-health and e-shopping). When it comes to an *overall* assessment of content and services, however, rewards will play a greater role in the *SuperNet—Household* exchange. Study 1 proved the proposition that *rural households place less value on the overall 'traditional' content available via the Internet than urban households*, whereas Study 2 proved the proposition that *rural households will value the overall content currently available via the SuperNet more than will urban households*. This turnaround in valuation suggests that given certain types of content and services, rural households will place a greater value on the Internet than will urban households. The vision at the heart of the global village hypothesis may yet become reality. According to the overall values for the five public service components of the SuperNet as established in Study 2, rural and urban households value public services equally; yet, when it comes to private content and services (with the exception of e-shopping) rural households value this as much as, or more than, urban households. In fact, services such e-mail, e-files and e-business have more perceived value for rural households than for urban.

How does one explain this? Private content and services like these have been available via the Internet for some time; perhaps, society in general has become so accepting of them that rural households now accept their presence as a social norm. Under these circumstances, the resistance associated with social inertia no longer comes into play. Or perhaps since these are private services consumed in private, the effects of social inertia are nullified. In summary, Study 2 provides evidence to support the proposition that rural households will value the content and services offered by the broadband network SuperNet more than will urban households.

In a forthcoming paper, Ida and Horiguchi (2007) describe adopting a similar method to compare the willingness to pay (WTP) values for various public services over the Fiber-to-the-Home (FTTH) between two FTTH available areas, provincial Yawata (a town with a population of less than 10,000) and urban Tokyo (with a population of 12 million). The authors report no usage-based differences when the digital divide was examined quantitatively. The absence of an overall usage-based digital divide does not surprise me. On the contrary, the evidence provides support for our theoretical framework, in particular the *social inertia* hypothesis and the *global village* hypothesis. According to the authors, both Yawata and Tokyo had equal FTTH penetration at the time the survey was administered. The survey focused primarily on two types of services: existing service and proposed service. In the case of existing services, my framework proposes that since these services are accessible for a reasonable period of time, social inertia will have less influence on the evaluation. In addition, the costs of content were the same in the case of those existing services that were examined in the study; therefore, the global village hypothesis will have the greatest influence on the evaluation (High rewards, low cost, low social inertia). The reported WTP values for existing services, specifically the Digital broadcasting services, were higher in the provincial area. In the case of new services, the framework used in this study suggests an important role for social inertia too (High rewards, low cost, high social inertia). The WTP values for tele-education were lower in the provincial areas. In addition, in case of tele-medicine the authors state that the respondents from Yawata still believe that receiving direct outpatient treatment is important, highlighting the role of social inertia.

Overall, my work highlights the need to examine the social influences in the evaluation of new services, especially social influence as driven by resistance to a collective community change.

5.3.c Conclusion

My aim in conducting this research, and sharing the findings, was to demonstrate that rural households, given access via the Internet to meaningful content and services, would value such content and services more than their urban counterparts. I used a framework based on social exchange theory to test propositions pertaining to the rewards (*global village* hypothesis), costs (*urban leadership* hypothesis), and social acceptance (*social inertia* hypothesis) of the *Internet Service Provider—Household* exchange. My studies offer strong evidence that rewards play a greater role in exchanges involving SuperNet content and services while cost plays a greater role in exchanges involving traditional Internet content and services. When I isolated and examined specific forms of content and services, it became clear that social acceptance (social inertia) also plays a key role in the exchange. In the end, I did establish that rural households assign less value to current Internet content and services than do urban households and that rural households assign more value to anticipated content and services that they deem relevant and meaningful. Taken together, these two studies demonstrate the important role played by content (rewards) and community (social acceptance) in the adoption of a broadband network

The fact that I was able to establish the importance of social acceptance in the form of social inertia in the *Internet Service Provider/SuperNet—Household* exchange

warrants emphasis. Researchers in Marketing have examined both the informational and normative influences of the physical presence of the social group upon the individual. My work looked at normative influences, but instead of focusing on the influence of the group's actual physical presence upon the individual, I examined the influence of the imagined presence, specifically, how the individual, by resisting intrusive social norms and values, maintains the status quo within the home community. I infer from the welfare estimates for both rural and urban consumers that social inertia plays a significant role for 'simpler' communities involved in an *Internet Service Provider/SuperNet—Household* exchange. This paper highlights the need for more research on issues related to social inertia and its influence on the evaluation of new products.

I also found interesting differences between the valuations for the public component of the SuperNet and those for the private. In the case of traditional Internet content and services, urban households valued private content and services more than their rural counterparts. Urban residents also valued the public service component associated with traditional Internet content/services (government and public service sites) more than did rural residents. In contrast, when it came to the content and services offered by the SuperNet, rural households valued the private component as much as, or more than, urban households and the public content to the same degree as their urban counterparts. I contend that social inertia effects will diminish as time passes and, eventually, rural households will value all SuperNet services more than urban households. It may be possible to hasten this process by finding ways to overcome social inertia, perhaps through communication, pilot projects, or opinion leaders. This would benefit both the Alberta government and the rural residents of the province.

Based on the findings of this study, I recommend that network developers, who wish to accelerate the adoption of ICTs within rural communities, take into account community requirements before they finalize and formalize network content and services. While the government, in its efforts to eradicate the digital divide, has worked diligently to enhance access to Internet content and services, it also needs to focus on the *types* of content and services that communities want and need. Based on my study, I recommend a change in government policy: governments need to provide underprivileged communities with both the hardware *and* the software that will meet their self-perceived needs. Indeed, as Study 2 demonstrates, by identifying and providing content and services that meet the actual needs of rural communities, network providers can both facilitate and accelerate the adoption of ICTs. In other words, the global village hypothesis can be realized.

In addition, given the welfare values assigned by rural householders to e-health, I suggest that policymakers address the need for more effective communication between government and rural communities and more vigorous promotion of its network services. In this respect, government needs to stress the benefits associated with purchasing network services if it hopes to overcome the constraining effects of social inertia. By focusing on the rewards associated with the content and communicating those benefits to rural households, governments will go a long way towards leveling the ICT playing field for urban and rural communities and eradicating the digital divide.

5.3.d Limitations and Future Research

Although my research provides evidence that rural households value relevant and meaningful Internet content and services more than urban households, I emphasize that

my two studies focus on a limited selection of content and services. This was necessary given my choice of method: choice experiment requires that one keep data manageable. Further research is needed to examine other types of content and services. Furthermore, although I infer the role of social acceptance in the form of social inertia, I have no behavioural data to support this inference. Researchers would do well to take a closer look at social inertia—especially the role that it plays in the evaluation of new products—so as to understand and predict adoption behaviours within various communities. My work examined how rural households, relatively free from community or informational constraints, evaluated different types of Internet content and services. Now, it would be useful to study how social influences interact in the *Internet Service Provider—Household* exchange. For example, as the individual evaluates a new ICT product, how does product information originating within the home community interact with social inertia?

5.4 Results: Propositions 9 through 18

I further tested propositions 9 through 18 by running a number of models to account for known digital divide descriptors and new ones to see if a difference still existed between rural and urban households. Table 8 lists the details of the variables and items I have used for the three different constructs, namely rural affinity, availability of alternative access and availability of communication technologies. This table also describes how I have calculated the two different forms of distances.

5.4.a Rural affinity

In the overall model, there is an insignificant effect of rural affinity on *high speed* value. Only *dial-up* access (0.82 (0.00)) provides evidence for a significant positive relationship with value. However, the rural model (Table 10) and the urban model (Table 11) give contrasting results. In the case of rural households, I have strong support for both *high-speed* (1.10 (0.04)) and *dial up* (1.28 (0.02)) (P9: √). The urban households to my surprise provide contrasting results. I expected that households showing greater rural affinity would place a higher value on the content. However, I discovered that, in the case of *high-speed* access, there is a strong *negative* relationship (-0.84 (0.01)); the other two forms of access produced insignificant results.

5.4.b Availability of alternative access

I find strong support for the positive relationship between availability of alternative access and value in all the three forms of access in the overall rural and urban populations (P10: √).

5.4.c Availability of Communication Technologies

I find strong evidence for the positive relationship between availability of communication technologies and value in *high-speed* (5.43 (0.00)) and *dial-up* (2.89 (0.00)) access in case of the overall population (P11: √). For rural households, I found support only for *high-speed* access (6.82 (0.00)). For urban households, I found support for *high-speed* (4.68 (0.00)) and for *dial-up* (3.49 (0.00)) access.

5.4.d Digital Divide Descriptors

As expected, I find the data supports the findings of earlier literature regarding age, education and income. Age is negatively related to the value of SuperNet content and service (P12 :√) for all three forms of access (*high-speed:* -0.21 (0.00), *dial-up*: -0.20 (0.00) and *other access:* -0.36 (0.00)). Income shows a positive relationship with the value (P13 :√) in the case of *high-speed* access (0.11 (0.00)). However, *dial-up* access has a negative relationship (-0.6 (0.04)) and insignificant effect for *other access.* Education is positively related to the value only in the case of *dial-up* (0.14 (0.00)) and *other access* (0.14 (0.00)) (P14 :√). It is insignificant for *high-speed* access. Contrary to my expectation, gender is insignificant for all three forms of access (P15: X). The evidence that I propose to show indicates that even after accounting for all these variables, location does matter in the evaluation of new services; I get evidence for this from the significance of the factor location. I find rural households place a higher value on the content and service than do urban households (P18: √). This strong positive effect is evident for *high-speed*: 0.69(0.00) and for *dial-up*: 0.35(0.00) access. However, location is insignificant for *other access.*

5.4.e Distance between household communities to large urban city

The data does not support Proposition 9; instead the distance is negatively related to the SuperNet value. This relationship is evident in the case of *high-speed* access for the overall (-0.13 (0.00)), rural (-0.31 (0.04)) and urban (-0.10 (0.02)) population (P16a: X, P16b: √). However, in the case of all the other forms of access there is an insignificant relationship between distance and value.

5.4.f Distance of household from community centre

The data supports a positive relationship between this form of distance and value. This positive relationship is evident in all forms of access (*high-speed*: 0.06 (0.00), *dial-up*: 0.07 (0.00) and *other access*: 0.05 (0.01)) for the overall population (P17a: √). However, to my surprise, in the case of rural households, it is significant and positively related *only* with regards to *dial-up* access (0.11 (0.00)). In the case of urban households, this variable is positively related and significant for all three forms of accesses (*high-speed*: 0.08 (0.00), *dial-up*: 0.05 (0.02) and *other access*: 0.10 (0.00))

5.4.g Discussion

First, this study provides support for some familiar demographic descriptors of a digital divide. Notably, gender emerged as an insignificant descriptor in our study. This may have been because, within the context of the study, gender was defined in terms of 'head of the household'. Therefore, the data would have limited use for the purpose of testing gender differences. The evidence that rural households value the content and services more than urban households when controlling for additional variables further supports the findings of Thomas, Finn and McFayden (2006).

Second, I tested three household constructs for their influence on valuation. The availability of alternative access results demonstrate that experiencing the Internet elsewhere helps households become familiar with the product, understand its complexity, and value it more than households that have no internet access. I construe this as further support for the finding that better access leads to more usage (Eastin & LaRose, 2000;

Hoffman & Novak, 1998). This finding lends additional support for policy makers building networks and facilities to make community level access available in underprivileged regions through schools, colleges and libraries. Once access is made available to homes (through any kind of network), households with members who have prior experience with the Internet (gained in some other context) will tend to adopt the service sooner than those without such experience. The results for rural affinity are surprising. I used this variable to control for urban households that have an affinity for a rural lifestyle. I expected them to value the content and service more than other urban households. Instead, urban households that have a greater rural affinity valued the content and service less than other urban households. I can provide at this time no explanation for this finding. This issue should be examined further so that we can understand its implications for public policy issues. The results pertaining to availability of communication technologies are consistent with the findings of Moreau, Lehmann and Markman (2001) concerning experts and novices and their behaviour in the adoption of a continuous innovation. I found that households with a greater availability of communication technologies (and, therefore, greater expertise) reported higher values. This relationship has policy implications. The rapid development of the Internet and other ICTs results in a series of innovations being made available in short intervals. If any segment delays in adopting one innovation because of lack of access, it is probable that an increasing divide for subsequent innovations will become established. Members of the underprivileged segment will remain novices for the next innovation in this chain of continuous innovations, leading to further delay in adoption. These delays can have a compounding effect on the divide; rather than bridging the divide, it can cause the divide

to widen further with each innovation. Therefore, if policy makers truly wish to bridge the digital divide they should be prepared to put in place programs that provide continuous support.

Finally, the lack of support for Proposition 16b provides evidence for the *death of distance* hypothesis when distance is viewed as a proxy for agglomeration economics. In fact, the farther households are from a major urban center, the lower the perceived value for content and services. However, we find that rural households place a higher value on SuperNet content and service than do urban households. These two results provide evidence for the applicability of both the *global village* hypothesis and the *death of distance* hypothesis. Rural households, that base their valuation of SuperNet on the benefits, are paying the distance premium not because of the affect of agglomeration economics, but rather because of the perceived benefits. Therefore, this type of distance does not matter to a rural household. However, I find evidence for a positive relationship between distance from the local community centre and value. Households established far from the local community are willing to pay a distance premium for the content and service provided by the SuperNet. However, I find this result only for urban households. The insignificant results for rural households indicate that if households do have access to SuperNet-like services, then the vision of the *death of distance* will become a reality. However, I do not conclude that these results will lead to the *death of distance*. The importance of distance could change in a scenario wherein communication of data and ideas becomes distance-free. Urban populations could disperse even more, as consumers become willing to pay a distance premium on communication services while they maintain a preferred lifestyle with lower tax, land, and building costs. With advances in

transportation, ICTs and globalization, distance will still matter to urban citizens, and this will continue to cause decongestion and dispersion within large cities, the development of smaller cities, and the emergence of new urban cities; but, for the rural consumer, distance will not matter.

5.4.h Conclusion

The second part of this study reports on the role of distance from the perspective of the consumer in an attempt to broaden the *death of distance* literature. I used a CE to examine how distance influences the evaluation of an ICT innovation by households in rural and urban areas. Insights obtained from the evaluation stage can help researchers better understand the adoption of ICTs. I find that the *death of distance* may be possible in rural areas, but in urban areas distance still matters. These results support the role of other forms of access and familiarity with other technologies in the evaluation of an ICT innovation. The policy implications are threefold. First, the findings support the rationale put forth by government for accepting a role in establishing Internet access for the underprivileged, whether it be in community centers, schools, libraries and/or adult colleges. This is especially important because prior experiences with Internet access proved to have a positive influence upon the evaluation of SuperNet content and service: a degree of familiarity with the service tends to boost home adoption of the service. Second, there is a need for continuous support from government whenever policy concerns the adoption of ICTs. Third, and the focal point of this part of the study, the *death of distance* hypothesis can, indeed, become a reality, but it appears that it will be a phenomenon confined to rural households; distance will still matter for urban households.

A distance-free means of communicating ideas and data will facilitate certain social changes. City residents are likely to become more willing to move farther away from the city center, secure in their access to Internet communication even if it becomes necessary to pay a distance premium. This trend will result in the mushrooming of smaller cities and the rapid diffusion of larger cities.

6. Conceptualization and Hypothesis Development: Study 3

In this chapter, I lay out the background and the theory behind the hypotheses that I came to formulate for Study 3. I came to these hypotheses via the behavioural insights that I derived from the results of Study 1 and Study 2. I developed and conducted this third study in order to understand the causes and effects of social inertia. The hypotheses that I tested are grounded in the literature on self-categorization theory and cross-cultural research, and pertain to context, cultural orientation, inherent inertia and type of goods and the role that each of these factors plays in the social exchange.

6.1 Individualistic Cultures: SCT's Dynamic Self Vs. Stable Self-Construal

As described in Chapter 5, the SCT posits a dynamic self that is context-dependent: when the context brings about comparisons *between* groups, the social identity of the group member is made salient; when the context brings about comparisons *within* a group, the personal identity of the member is made salient. If a group member compares the group's acceptance of this new service (or the continuance of an existing service) to that of other groups, his/her social identity will take precedence. However, if the group's acceptance of a new service (or the continuance of an existing service) comes into conflict with the individual member's position, and if that member is not prompted to compare the attitudes of his/her home group with those of another, the personal identity will take precedence. Inertia comes into play on two levels: first, the individual's inherent inertia as it concerns decision-making; and, second, social inertia and its impact

upon cross-group decision-making. Social inertia is driven by the individual's perception of how his/her group is likely to react to a new product or service. As noted earlier, when one perceives the group as a whole turning down a new product or service and maintaining, instead, current attitudes, products and services, one is likely to do the same. Social inertia, then, has a profound impact upon the degree to which individuals within the community contexts will either purchase or pass on new Internet content and services. In this study, I focused on social inertia; hence, I took a close look at those cases wherein the social identity is made salient. According to SCT, an individual in such a situation will be thinking as part of the group rather than as an individual. Therefore, no matter what the individual's attitudes, behaviour and/or upbringing, s/he will always react on the basis of that social identity. If one perceives that one's home community has accepted and continues to use a particular Internet service, one will do the same, placing greater value on the prevalent and existing service than on the recently introduced, unfamiliar service. Hence, marketers of the new product or service must deal with these continuance constraints before they are able to sway public opinion.

However, the literature on cultural research in North America where people are considered to be individualistic in nature, documents a fundamentally stable self-concept across contexts. As members of various social groups that, for the most part, lack a strong collectivistic orientation, North Americans tend to manifest relatively stable self-concepts. Regardless of the context, therefore, a Canadian or American consumer's self-concept tends to be driven primarily by his/her personal identity. Thus, whenever the social context does, indeed, foster strong inter-group comparisons (making the social identity more salient), the North American consumer will experience a considerable, and

perhaps, unsettling, shift in self-concept, moving from the position of a strongly salient personal identity to that of a salient social identity. This shift will be far greater for the North American consumer than for his/her Asian counterpart, whose personal and social activities are already strongly oriented toward collectivism.

Given the significance of these three variables--inertia, social inertia and cultural orientation--in the evaluation of new products or services, I chose to examine them in terms of their relative influence upon the valuation of Internet products/services.

6.1. a Social Inertia

Social inertia effects cause the individual to place less value on a new service than s/he might have done had social inertia not come into play. Therefore, whatever the individual's personal response to the new service, in situations where the social identity becomes salient and the community's preference is to continue using the existing service rather that to experiment with a new service, the social identity prompts the individual to lower his/her evaluation of that new service. Yet, cultural research proposes that North Americans, who are primarily individualistic, and directed by personal identity more so than social identity, have fundamentally stable self-concepts. This suggests that the prominent personal identity will remain stable across all social contexts. If this were the case, *no* situation would arise in which the social identity becomes salient. And if the personal identity is always salient, then there should be no difference in WTP values when social inertia shifts from high to low or low to high. However, I provide evidence showing that the social context can, indeed, make a social identity salient for the North American consumer. I provide evidence that within this individualistic culture, North

Americans vary in their collectivistic behavior: some are more inclined towards collectivistic behaviour and attitudes than are others. Those who are will more readily emphasize the social identity over the personal. Therefore, whenever context drives social inertia, the individual tending towards high collectivism will be clearly influenced by that context, while the individual tending towards low collectivism will not. Therefore, I propose the following hypothesis:

Hypothesis 1: W*hen social inertia is induced, the willingness to pay for a new service is reduced for respondents who rate high on collectivism but not for those who rate low on collectivism.*

$$\mathbf{H1: WTP_{S.I:High} < WTP_{S.I:Low}}$$

6.1.b Individual Inertia

Inertia has been variously defined within the marketing literature. Campbell (1997) defines inertia as a condition where repeat purchases are the result of certain situational cues rather than previously established commitments and beliefs. In other words, people visit particular stores out of habit rather than loyalty or customer satisfaction. Murray and Haubl (2007), studying habit formation, define inertia in terms of a similar type of behaviour, which they refer to as "cognitive lock in." Indeed, a few years earlier Johnson et al. (2003) reported evidence of this type of behaviour in the use of web sites. Murray and Haubl (2007) state that cognitive lock-in does not require a positive attitude toward the product, nor does it necessitate trust in the product, though both of these attitudes would be evident if one were acting on the basis of traditional

notions of loyalty. Nor does cognitive lock-in involve an objective assessment of superior product functionality. It may be noted the individual's innovativeness can also be seen as an inverse measure of his inertia, or his preference for a status quo option.

However, in this study, rather than measuring individual inertia I manipulated the scenarios to prime individual inertia so that it would clearly contrast with social inertia. I examined the case of the consumer for whom context causes the salience of the personal identity. According to both the SCT and cultural literature, consumers who demonstrate a high level of collectivism, will, in a personal context, have their personal identity made salient; on the other hand, those who demonstrate low levels of collectivism will already have a stable personal self: hence, their personal identity is already salient. Therefore, the role played by individual inertia should not differ between these two groups. Thus, on the basis of the preceding discussion, I proposed the following hypothesis:

Hypothesis 2: W*hen individual inertia is induced, the willingness to pay for a new service is the same for respondents who rate high on collectivism and those who rate low on collectivism.*

$$\mathbf{H2: WTP_{I.I:High} = WTP_{I.I:Low}}$$

6.1.c Cultural Orientation

Based on the findings reported in the literature on cultural orientation, I proposed that people who are more collectivistic in nature are likely to have unstable self-concepts that will change with the given context. This suggests that these individuals will be more susceptible to personal change as the contexts themselves change. The reverse would be

true, then, for people who are more individualistic in nature. However, even for those who are predominately collectivistic in their attitudes and behaviours, when the a particular change in context does not foster a stronger social identity, and when all other variables remain the same, there will be no effects of cultural orientation. Therefore, the following hypothesis is proposed:

Hypothesis 3: *When everything else remains the same, there is no effect of a consumer's collectivistic orientation on the willingness to pay for a new service.*

$$\mathbf{H3:\ WTP_{Control:High} = WTP_{Control:Low}}$$

In addition to these three key variables, I examined two types of service dimensions that can potentially influence the WTP as it pertains to the purchase of new services. SCT proposes that social identity becomes salient when the context promotes comparison across varying classes of products and services between groups. However, there are some services that, by their very nature, drive either social identity or personal identity. Therefore, in order to examine validity across different categories of goods, and explore the effect of service type, I replicated this study for goods that can be classified along two dimensions: social good versus private good and public use versus private use.

6.2 Private Goods Vs. Social Goods

In my study first I classified the services as private and social. I define a private good as a service rolled out for profit, and a social good as a service that could be delivered privately, but is usually delivered by the government for reasons driven mostly

by social policy. Governments finance social goods using public funds(taxes). I predicted that evaluations of goods that are perceived to be social, rather than private, will make the social identity more salient. Therefore, in the presence of social inertia and an already salient social identity, salience is simply maintained, resulting in an expected lowering of WTP values. However, in the absence of social inertia, and among individuals who are highly oriented towards collectivism, evaluations of goods perceived as being social will also be subject to the social identity. In this case, salience of the social identity is strengthened, resulting in a lowering of WTP values. As far as private goods are concerned, when social inertia is present and social identity made salient, the nature of the product itself may cause a shift in salience, causing the personal identity to become more salient. Therefore, the effect of social inertia becomes less pronounced as the personal identity is made salient. This led me to the conclusion that the effect of collectivistic attitudes will be greater for social goods than for private goods in the case of social inertia. Therefore, the following hypothesis is proposed:

Hypothesis 4: W*hen social inertia is induced for respondents with high collectivism (vs. low collectivism), the willingness to pay for a new service decreases more in the case of social goods than it does in the case of private goods.*

6.3 Public Use vs. Private Use

I explored the dimension of public versus private use keeping in mind Bearden and Etzel's (1982) work on the reference group's influence on product and brand purchase decisions. They used two dimensions—public-private consumption and luxury-

necessity items—in a study examining the degree to which reference group influence decisions concerning products. I used the dimension of public consumption versus private consumption to examine the influence of the type of consumption on the social and personal identity. As was the case with social good and private good, evaluation of goods perceived as being produced for public consumption will be subject to the social identity. Therefore, when social inertia is strong and an already salient social identity exists, salience is simply maintained, resulting in an expected lowering of WTP values. However, when social inertia is low among individuals who are highly collectivistic, the evaluations of goods that have been perceived as being consumed publicly will be subject to the social identity. In this case, salience of the social identity is strengthened, resulting in a lowering of WTP values. Therefore, I proposed that the effect of collectivistic orientation will be greater for public use goods than for private use goods in the case of social inertia. In the case of private consumption, when social inertia is strong and the social identity salient, the perceived nature of the particular goods considered for private consumption may cause a shift in salience, making personal identity more salient. This tends to occur when people's perceptions of the goods as intended for private consumption are stronger. Therefore, when social inertia is strong and an already salient personal identity exists, salience is simply maintained, resulting in an expected lowering of WTP values. I suggest that the effect of individual inertia will be greater for private-use goods than it will be for public-use goods. Therefore, the following hypothesis is proposed:

Hypothesis 5: W*hen social inertia is induced for respondents with high collectivism (vs. low collectivism), the willingness to pay for a new service decreases more in the case of goods used publicly than in the case of goods used privately.*

I tested these hypotheses using two experiments in Study 3.

6.4 Methodology–Lab Experiments

I tested Hypotheses 1 through 5 by running lab experiments. I used the method of lab experiment rather than survey for the following reasons. The hypotheses that I tested required manipulation, wherein one group was primed with social inertia and the other was not. Lab experiments allow for greater control in such cases. Second, the purpose of these tests was to provide evidence of theoretical effects, making generalizibility across the population a lesser consideration. This also pointed to controlled experimentation as an appropriate method. Furthermore, while CEs can be used to estimate the values of individual components of the new services, they are typically used to estimate values at an *aggregate* level. Given these considerations, I opted for lab experiment over survey.

In addition, rather than conducting a CE in a lab setting, I used a CV method to value the services in this experimental study. Since I was not interested in coming up with values for each service and then estimating the overall value that would reflect the average value of the population, the CV method worked well for me. My concern was, and remains, what it is that causes this valuation, not whether or not a specific value accurately reflects the population. Therefore, in order to identify the causes that drive valuation, I kept all other possible extraneous variables constant and controlled for them.

This is possible when one applies CV: I was able to value only one service component at a time while controlling for all the extraneous variables that could influence the values. Therefore, in Study 3, I set up two experiments using the CV valuation method in order to identify the willingness to pay.

7. Study 3: The Role of Social Inertia

In Study 3, I manipulated inertia at two levels, the social and the individual, in order to establish whether collectivistic orientation influences a consumer's willingness to pay for a new service. In this chapter, I first explain the pretest results that led to the first experiment. Then, I explain the research design that I adopted and the participants with whom I conducted the experiment; I share the questionnaire that I developed and used for this experiment; and I describe the results from the study. Finally, I layout the need for Experiment 2 and report the design employed, the sample involved, and the eventual results.

7.1 Pretests

My purpose for conducting Study 3 was to examine the role played by social inertia in in the evaluation of e-servicves. As explained in Chapter 3, I ran lab experiments to study the influence of social inertia in relation to collectivistic orientation. I began by conducting a pretest to determine the feasibility of identifying students with high and low collectivistic orientation based on the community location of the high schools that they attended. I wanted to use two student populations: one comprised of rural participants with higher collectivistic orientation, the other comprised of urban participants with lower collectivistic orientation. Although it was feasible to obtain samples made up of students from rural and urban backgrounds, as the results show, I was wrong in my assumption concerning the differences in their collectivistic

orientations. I also conducted a pretest to assist me in classifying twenty electronic services along the dimensions of private good/social good and private-use/public-use.

7.1.a Pretest 1: Rural—Collectivistic Orientation

Scholars theorize that rural consumers tend to be more collectivistic in nature while urban consumers tend to be more individualistic. Therefore, I needed to determine whether or not this proposition would prove true for the rural and urban subjects I anticipated recruiting for the research study. Thus, I needed to conduct a pretest to identify the relationship between a participants background and degree of collectivistic orientation.

Research design

I used a between-subject design, with 'participant location' as a factor, to determine if the expected differences in collectivistic orientation were, indeed, evident.

Participants

An initial pilot test was conducted using adult respondents from various communities who had come to Calgary to attend a conference. Participants were solicited in one of two ways: (a) from a booth, where I asked participants to complete a paper and pencil survey or (b) through e-mail, in which case they were asked to take part in the survey online. The data gathered using these two response-methods identified a total of 13 respondents who completed the survey. Later, I administered the same online survey

to 79 undergraduate students drawn from the School of Business, Research Participation Pool. These students received course credit in exchange for their participation.

Procedure

Pretest participants completed a brief survey in which they recorded their thoughts concerning certain electronic services developed under the auspices of the provincial government of Alberta. At the time, these services were still in the planning and development stages. The specific services that I adopted for this purpose were those used in Study 2 (identified in Appendix 2). After responding to the survey itself, participants answered a series of questions that made up the cultural orientation scale (COS) (Bierbrauer, et al., 1994); this was my means for identifying the collectivistic orientation of the participants. The scale consisted of 26 items, the odd-numbered alternative items reflecting the normative collectivistic orientation of the participants, and the even-numbered alternative items reflecting the evaluative collectivistic orientation of the participants.

Results

Meaningful results from the survey that I had conducted with adult subjects in Calgary prompted me to take the next step—collecting data from the undergraduate students (Table 13). Although the sample sizes were too small to be able to draw solid inferences, I list the results here: (rural (<1000) n = 3; semi rural (1000- 10,000) n = 7; and urban (.10, 000) n =3. It was encouraging to see the directionality of the means for

the normative (and evaluative) parts of the COS scale—rural= 4.7 (5.18), semi rural= 4.37 (4.75), and urban= 4.10 (4.46). Therefore, I was encouraged to proceed with my plan to use student subjects organized into groups on the basis of different degrees of collectivistic orientation.

However, when I completed this pretest with a larger sample of student subjects, the directionality of the differences proved to be the reverse (Table 14). The urban participants (n = 59, population > 10,000) had greater values for both normative and evaluative scores for collectivistic orientation than did the rural participants (n = 20, population $\leq$ 10,000). The urban participants had a mean of 4.29 while the rural participants had a mean of 3.98, and this difference was significant at 0.05 levels. The directionality was similar in the case of the evaluative section: the urban participants had a mean of 4.70 and the rural had a mean of 4.63; however, this difference was not significant. Contrary to my expectation, the results indicated that the urban participants exhibited more collectivistic orientation than did the rural participants. However, I realized later that a type of self-selection could be at work here in the case of students who had moved in from rural areas to the city in order to pursue higher education. Another alternative explanation is the drawbacks of self-report measurements in the Individualism collectivism between culture differences (Heine, Buchtel, & Norenzayan, 2008). They report that a cross cultural comparison between cultures (e.g. Canada and Japan) is affected by the reference group effect- the effect due to people from different cultural groups using different referents in their self-reported values. Therefore, rather than identifying collectivistic orientation on the basis of a rural/urban location variable, I

decided to treat collectivistic orientation as a measured individual characteristic. Instead of treating it as a dichotomous variable, I treat it as a continuous dispositional variable.

7.1.b Pretest 2—Group-Thoughts and E-Service Classifications

I conducted this pretest for two reasons. First, I wished to test the feasibility of the manipulation to be used, what it is that drives group-thought, the core aspect of social inertia in the individual. Second, I wanted to locate electronic services along the dimensions of private good/social good and public use/private use.

(1) Group-Thoughts

Research design

I chose a between-subject design with a context that primed, as a factor, either the individual thought or the social (community).

Participants

I administered an online survey to 30 undergraduate students drawn from the marketing faculty's voluntary research pool. These students received an honorarium in exchange for their participation.

Procedure

Participants were asked to complete a brief test of 'reading ability.' I applied the priming technique that had been used in earlier self-construal studies (e.g. Trafimow et al., 1991) in order to test for the possibility that context drives group-thoughts. This application constituted the prime for self-expansion. All participants read a story concerning a general named Sostoras who had to choose a warrior to send to the king (Trafimow et al., 1991). I randomly assigned half of the participants to the independent-control condition: here, the story ended when the general chose the warrior on the basis of his individual merits. Past research with American undergraduate student participants has shown that this type of priming is no different than a no-prime control group in the type of independent self-construal that results (Gardner et al., 1999). The remaining group of participants read an ending in which the general chose the warrior on the basis of his membership in the community. This prime has been shown, in American participants, to expand the self to include close relationships as part of the self-construal (Gardner et al., 1999; Trafimow et al., 1991). Both primes began with this paragraph:

> Sostoras, a warrior in ancient Sumer, was largely responsible for the success of Sargon I in conquering all of Mesopotamia. As a result, he was rewarded with a small kingdom of his own to rule. About ten years later, Sargon I was conscripting warriors for a new war. Sostoras was obligated to send a detachment of soldiers to aid Sargon I. He had to decide whom to put in command of the detachment.

The independent prime then continued with the following paragraph, which highlights the individual merits of the general that was chosen:

> After thinking about it for a long time, Sostoras eventually decided on Tiglath who was a talented general. This appointment had several advantages. Sostoras was able to make an excellent general indebted to him. This would solidify Sostoras' hold on his own dominion. In addition, the very fact of having a general such as Tiglath as his personal representative would greatly increase Sostoras' prestige. Finally, sending

> his best general would be likely to make Sargon I grateful. Consequently, there was the possibility of getting rewarded by Sargon I.

In contrast, the community-oriented prime continued with the paragraph below, which highlights the general's relationship to his community:

> After thinking about it for a long time, Sostoras eventually decided on Tiglath who was a member of his community. This appointment had several advantages. Sostoras was able to show his loyalty to his community. He was also able to cement their loyalty to him. In addition, having Tiglath as the commander increased the power and prestige of the community. Finally, if Tiglath performed well, Sargon I would be indebted to the community.

After reading the paragraph that had been placed before them, participants were asked to identify the degree to which they admired Sostoras. They were instructed to circle a number on a scale from 1 to 4, with the high end representing extreme admiration. In the following screen, participants were asked to answer the question 'Who am I?' The first screen required participants to note 10 separate thoughts, and the next screen, another 10 thoughts. Following this, participants proceeded to the second part of the pretest, which involved product classification. Finally, participants concluded the pretest by answering a number of questions, including the twenty-six noted earlier, those pertaining to the COS scale.

Results

An independent rater then coded the 20 thoughts as Independent, Group or Allocentric (Mandel, 2003). The dependent variable, group-thought, was measured as the percentage of group thoughts (Table 15). I expected that more community-oriented thoughts would be made in community prime condition (n=16) than in the individual

prime condition (n=14). This expectation was met in directionality for overall group-thoughts percentage (Community: 31.6 % vs. Individual: 26.44 %), first ten group-thoughts (32.15 % vs. 26.60 %) and last ten thoughts (30.82 % vs. 27.06 %). The directionality of ideocentric thoughts was also consistent with the expectations: that is, the independent prime participants generated more ideocentric thoughts than the community primed participants (Overall: 52.39 % vs.47 56 %; First ten: 48.40% vs. 39.93%; Second ten: 56.35% vs. 55.35%). However, when I ran a univariate GLM with group- thoughts as the dependent variable and community orientation (evaluative COS) and prime as the independent variables, evaluative COS was found to be significant and the prime, insignificant. This analysis suggests that group-thoughts were driven mostly by the community orientation rather than by the prime. The prime used in this pretest was the *Sostoras* story. I infer from the results that the prime failed to create the anticipated salience of the community for the population of subjects that would be used in the main study. In addition, I believe that the story did not make clear a contrast between two groups; therefore, participants could not interpret the story as an inter-group contrast; hence, the pro-social behavior could not become salient. However, this pretest did give us some insight into the effectiveness of the context in driving group-thoughts in participants who were high on collectivistivism. This was consistent with predictions noted within the cross culture literature.

(2) E-Services Classification

In Studies 1 and 2, I set up a pretest using nineteen electronic services in total. This pretest was used to classify the identified electronic services along the dimensions of

private good/social good and private use/public use. I wanted to identify an example of each of the following types of goods to use in the experiment: first, publicly used private good; second, publicly used social good; third, privately used private good; and fourth, privately used social good. Such services would enable me to analyze the contrast between, first, social good and private good and, second, publicly-used good and privately-used good.

Procedure

After completing the group-thought task, which required that participants write down their thoughts, the participants were asked to complete a short survey. In the section one of the survey, subjects were presented with a list of twenty electronic services, 14 of which were private, and 6, social service. A questionnaire was constructed to assess the participants' perceptions of the individual services: each respondent had to determine if an electronic service functioned as a social good or a private good, and whether it was for public consumption or private consumption. I administered the questionnaire by means of computer terminals; no more than 5 students participated in the evaluation at any one time. I defined "private good" as a good that exhibits the properties of exclusivity and exhaustiveness: in other words, goods or services that are made/established almost exclusively for profit. "Exclusivity" I defined as the limiting of a good to a single consumer, and "exhaustiveness" as the complete consumption of the good following the exchange transaction. I defined "social good" as a good that could be delivered as a private good, but which, for various reasons including social policy and availability of funding, the government preferred to deliver itself. I used a response scale similar to that adopted by Bearden and Etzel (1982). The response categories were labeled and scored as

follows: (1) a social good for everyone, (2) a social good for almost all people, (3) a social good for the majority of people, (4) a private good for the majority of people, (5) a private good for almost all people, and (6) a private good for everyone.

In the second task, the respondents assessed the same 20 electronic services in terms of public or private consumption. I defined "publicly used good" as a good used and possessed by one person, though recognized by others as being used by and in the possession of the said person such that if they wanted to, they would be able to describe the details of the good with little or no difficulty. A "privately used good" I defined as a good used at home, or privately in some other location. Except for one's immediate family, people would be unaware that one owns or uses such a good. The six-item scales were labeled as follows: (1) a public good for everyone, (2) a public good for almost all people, (3) a public good for the majority of people, (4) a private good for the majority of people, (5) a private good for almost all people, and (6) a private good for everyone.

Results

Table 16 reports the mean ratings for the 20 services tested on the dimensions of—social versus private good and publicly used versus privately used good.The four services I selected four services for use in my final experiment were e-disaster services (mean score towards social good dimension,*1.39*; and mean score on publicly used dimension; *2.61*), e-health (*2.42; 4.16*), social networking (*3.77; 3.10*) and e-shopping (*4.39; 4.29*) respectively. Note, although *Adult content* and *Gambling sites* were the two goods that rate the highest on both the private good and privately-used dimensions, I

avoided using them because of the confounding effect of desirability bias that I noticed in Study 1 and Study 2.

7.2 Experiment 1

7.2 a Research Design

Pretest 1 convinced me not to classify participants from rural areas as highly collectivistic and students from the city as highly individualistic. Instead I used the individuals' collectivistic orientation as a dispositional continuous variable. The second factor was the type of inertia, I manipulated it to have either social inertia driven by social identity or individual inertia driven by personal identity. Therefore, I have a 2 (Inertia: Social, Individual) X 1 continuous IV (Collectivistic Orientation) between subject design repeated for 4 sets of services that form a 2 (Type of Good: Social,. Private) X 2 (Type of Use: Public, Private) within subject factors.

7.2.b Participants

Sixty-seven undergraduates (forty males and twenty-seven females) drawn from the pool of potential participants from the School of Business Marketing research pool, took part in this study. Participants received course credit for their participation.

7.2.c Materials and Procedure

The inertia was manipulated to be social (n=33) or individual (n=34). Under these conditions participants evaluated 4 services. The participants were presented with 4

scenarios involving a proposed new service currently in development. The order of presentation of services was counterbalanced and randomly assigned by the computer to each participant. Scenarios were written to make the social identity salient in the case of the social inertia condition and the individual identity more salient in the case of the individual inertia condition. An example of the scenarios for the case of e-health is given below (see Appendix 5 for the other three services scenarios).

Scenario1: Individual Inertia version

> The Alberta government is proposing a new electronic-enabled health service as a means of improving the existing system. E-health empowers me by bringing health information, products, and services online. With the help of the new system I can obtain the services of a specialist through videoconferencing even while consulting the primary doctors. Test reports and other medical records could be transmitted, diagnoses done and treatments specified.
>
> However this type of e-health method of health care delivery is new to me, as I am accustomed to face-to-face interactions with a specialist. I would prefer the continuation of the existing method of personal contact while consulting a specialists. In addition, I am worried about the transmission of personal records using the network.

In the case of the social inertia version, the scenario is as follows:

> The Alberta government is proposing a new electronic-enabled health service as a means of improving the existing system. in my community. E-health empowers people in my community by bringing health information, products, and services online.With the help of the new system a patient in my community can obtain the services of a specialist through videoconferencing even while consulting the primary doctors. Test reports and other medical records could be transmitted, diagnoses done and treatments specified.
>
> However this e-health method of health care delivery is new to my community, which is accustomed to-face-to-face interactions with a specialist. We would prefer the continuation of the existing method of personal contact while consulting specialists. In addition, we are worried about the transmission of personal records using the network.

After reading the scenario, the respondent answered a set of questions.

Dependent Variables

I used the participants' willingness to pay (WTP) for the e-service as the dependent variable. Rather than expressing it as an open-ended contingent valuation question, I adopted Wertenbroch and Skiera's (2002) 'brackets' method of estimating the consumer's WTP (see Figure 2). This method is basically a double-bounded contingent valuation approach that narrows the range within which a respondent's WTP lies by using a choice bracketing technique. I adopted this method for the following reasons. First, this method employs a repeated choice- based procedure that imposes efforts and attention to a respondent comparable to the WTP elicited when using Becker, DeGroot, and Marschak's (1964) well known BDM procedure, a procedure that is commonly used in point-of-purchase contexts. For a hypothetical WTP estimate, this method eliminates the possible effects due to insufficient cognitive resources being devoted to the task, and effects due to lower salience of price in a price-matching task (see Wertenbroch & Skiera, 2002). Second, the stated prices that are elicited in a contingency evaluation method may vary due to differences in the reference frames. Therefore, instead of allowing the reference frame to vary across individuals, I constrained the respondents to a single reference frame with the aim of avoiding this particular source of variation.

In this method, the participants are asked whether they would pay a certain amount for the hypothetical service. The participants are first asked if they are willing to pay $10. If they say, yes, then they are taken to a second screen where they are asked if they are willing to pay $15: if they say no, they are taken to another screen where they

are asked if they are willing to pay $5. If, at the second screen, they are willing to pay the $15, they view a list of amounts ranging from $15 to $20, with each figure increasing incrementally by $0.50. If at that $15 screen, they say they are not willing to pay the $15, they view a list of amounts ranging from $10 to $14.50, with each amount increasing incrementally by $0.50. Backtracking for a moment, if participants say that they are not willing to pay the $10 and are then directed to the $5 screen they have two options: either they can say yes, they will pay the $5, after which they view a list of amounts from $5 to $9.50 with incremental increases of $0.50; or they can say no, they will not pay the $5, after which they view a list of amounts ranging from 0 to $4.50, with incremental increases of $0.10 until the 0 figure reaches $2.00, followed by incremental increases of $0.25 until the $2.00 amount reaches $4.50.

In addition, I measured the overall perceived benefits of the services using a 3 item overall perceived-benefits scale. The three items are rated on a 7 category likert scale that varies from 'not beneficial' to 'very beneficial', 'not advantageous' to 'very advantageous' and 'not valuable' to 'very valuable".

Collectivistic Orientation

I measured the individual's cultural orientation using the cultural orientation scale (COS) developed by Bierbrauer et al. (1994). I opted for the COS because it has been validated as a measure of personal I/C orientation (Cialdini et al., 1999; Petrova, Cialdini & Sills, 2007). The COS consists of 13 pairs of questions designed to assess both (a) the perceived presence of individualistic/collectivistic tendencies in a culture and (b) how they have been evaluated. The first question within each pair measures the

participant's perception of the frequency of specific behaviours in the participant's native country, such as consulting one's family before making an important decision. Responses are made on a 7-point scale ranging from 0 (not at all) to 6 (always). The second question in each pair assesses the individual's evaluation of this behaviour using a 7-point scale ranging from 0 (very bad) to 6 (very good). In addition, I use the 32 item INDCOL scale (Singelis et al., 1995) to ensure a cross check for the cultural orientation of the individual. The 32 item INDCOL scale makes theoretical and measurement distinctions between vertical and horizontal individualism and collectivism. The authors state that the optimal way to measure constructs in the domain of individualism and collectivism is to make the distinction and measure the horizontal and vertical aspects of the constructs (see Singelis et al., 1995, for the distinction). Triandis (1995) suggests that the United States and France provide examples of Vertical Individualism. Therefore, I kept a special focus on the V-C construct of this scale as a measure of the collectivistic orientation across participants in my study since I think it logical to presume that my respondents will closely follow the characteristics of respondents from the United States. In my pretest, I have the COS scale having α =0.757 (26 items) and the INCDOL scale having α =0.724 (8 items) for Vertical Individualism and α =0.70 (8 items) for Vertical Collectivism. Although the Cronbach α values are not high, Singelis et al. (1995) point out that in the literature on Individualism/Collectivism, when the focus is on the measurement of only one of the constructs such as independence or interdependence, the α value reported falls between 0.70 and 0.80, but when the topic includes many in-groups, α rarely exceeded 0.70. Therefore, I had confidence in using these scales, which are in line with the cultural research literature on measuring the collectivistic orientation of participants.

Other Constructs

The other constructs I measured include the following. One is the individual's resistance to change (Oreg, 2003). I adopted Oreg's scale since it measures the individual's dispositional inclination to resist change. Oreg claims that the scale can predict a reaction to a specific change and that the RTC scale can be successful in predicting a disinclination to adopt new products. The second scale I used is the consumer's innovativeness scale (Manning, Bearden & Madden, 1995), a construct which I believe can be understood as the reverse of inertia and, therefore, indirectly a useful measure of Inertia. This measure identifies two aspects of consumer innovativeness: (a) *consumer independent judgment decision-making* (CIJM- 6 items), defined as the degree to which an individual makes innovation decisions independent of the communicated experiences of others; and (b) consumer novelty seeking (CNS - 8 items), defined as the desire to seek out new product information.

7.2.d Results

Before proceeding with the analysis, I checked the three constructs, resistance to change *(Scale reliability α: .879, Equality of means across conditions: F(1,65)=0 .678, p= n.s.),* CIJM *(α: .899, Mean: F(1,65)=0 .151, p= n.s.)* and CNS*(α: ..928,Mean: F(1,65)=0.805, p= n.s.)*. These three constructs did not vary between conditions (social inertia and individual inertia)[1]. For the overall analysis, I treated the services as two within-subject factors—*Good* (Social good and Private good) and *Usage* (Public use and

[1] In addition, in my overall analysis I used each of these three variables as covariates in the GLM procedure to see its influence on the WTP. Each of these variables was insignificant and didn't alter the results.

Private use)—with each functioning at one of two levels (either high or low). I treated the categorical variable Inertia (Social and Individual) as a between-subject, fixed factor, and the continuous variable, collectivistic orientation, as a covariate. The interaction between the categorical variable and continuous variable was also treated as a covariate. I used the GLM repeated measures procedure because it makes possible an examination of the contrast caused by the within-subject factors, the between-subject factors and the interaction between the within- and between-subject factors.

An initial test on the dependent variable, the dollar amount of the WTP, showed that e-Health and E-Networking failed to meet my early assumption of equality of error variances among the groups as reported in Table 17. Therefore, I tried both the square root and a log transformation of the raw WTP data. In the case of the E-Networking service, these two transformed variables still violated the assumption; however they did meet the assumption in the case of the other three services. Since the square root transformation is a direct transformation unlike the log, where it was necessary to add a small constant to account for the zero values, I used the square root transformation of the WTP as the dependent variable. In addition, LaTour and Miniard (1983) suggest that it is irrelevant to test the homogeneity issues of the covariance matrices when the within-subject factor is represented functioning at two levels. Since I had only two levels for each within- subject factor for the GLM repeated measures procedure, I ignored this test. However, I report the Box's Test of Equality of Covariance Matrices in Table 18. Note that, in this case, the square root transformed WTP data did not violate the assumption.

To test the five hypotheses that are explained and developed in Chapter 6, I used a repeated measures GLM procedure[2], adopting the Aiken and West (1991) procedure that generates four steps in the analysis. In ***Step 1,*** I examined the interaction between the within- subject factors of *Good* and *Usage* and the between-subject factors of inertia and collectivism. The test for these interactions allowed me to check the influence of collectivistic orientation on both the *Type of Good*—Social and Private Goods—and the *Type of Use*—Public and Private. This step let me test hypotheses **H4** and **H5**. Following ***Step 1***, I conducted a univariate analysis for each service. In ***Step 2***, I employed the univariate GLM procedure involving the between subject factors using a set of dummy codes that allowed me to test for the interaction effects between context and collectivistic orientation. I then determined whether or not the interaction was significant. It was, allowing me to proceed to ***Step 3*** and examine the simple slope effects. In ***Step 3***, the univariate GLM procedure with that second set of dummy variables allowed me to test for the simple slope effects associated with each of the two levels of inertia (the test for hypotheses **H1** and **H2**). In the final step, ***Step 4***, I applied the univariate GLM procedure using a transformed collectivistic orientation variable that allowed me to test for the difference between two points in the two regression lines (levels) of inertia. (I explain these four steps in detail in the following discussion.)

Step 1*: Test of within-subject factor and between-subject factor interactions.*

I first examined the overall result obtained using the GLM repeated measure procedure (the results are reported in Table 19). When examining the first within-subject contrast, *Good*, and the significant three-way interaction between *Good*, inertia and

[2] I wish to thank Stephen West for suggesting this approach in analyzing the data.

collectivistic orientation ($F(1,63)=5.42$, $p<.05$), I noted a significant difference in the respondents' WTP for social and private goods, *and* that this difference was influenced by inertia and collectivistic orientation. This finding partially supports hypothesis **H4**: W*hen social inertia is induced for respondents with high collectivism (vs. low collectivism), the willingness to pay for a new service will decrease more in the case of social goods than in the case of private goods.* In order for **H4** to be fully supported, I have to demonstrate that there is a greater reduction of WTP for social goods than private goods.

In the case of the second within-subject contrast, *Usage* (Privately used versus Publicly used), the main effect was significant ($F(1, 63) =26.39$, $p<.001$), but its two-way and three-way interactions were not significant. Therefore, the findings failed to provide any support for my prediction in hypothesis **H5**: W*hen social inertia is induced and for respondents with high collectivism (vs. low collectivism), the willingness to pay for a new service decreases more in the case of goods used publicly than in the case of goods used privately.* I expected to obtain full support for my hypothesis **H4** by examining this interaction between inertia and collectivistic orientation. I expected to demonstrate that this interaction effect leads to greater lowering of WTP for social goods compared to private goods. Seeking this support, I subsequently examined the next three steps for each service.

To obtain an immediately interpretable contrast, I examined the between-subject factors using an approach similar to the multiple regression approach outlined by Aiken and West (1991). I used this approach because I had two between-subject factors, one, a categorical variable, and the other, a continuous variable. Aiken and West's (1991) work

outlines multiple regression procedures to analyze the interaction between a categorical variable and a continuous variable. Adopting their procedure, I used the between-subject parameter estimates obtained by the univariate analysis of each service to provide immediate interpretable contrasts of the between-subject factors. Probing the univariate analysis, I was able to determine the influence of the between-subject factors on the within-subject factors. I used dummy coding for the context factor (social inertia versus individual inertia) because dummy variable coding, as opposed to effect coding, produces immediately interpretable contrasts with the comparison group (Aiken & West, 1991: p. 129). The manipulations were modeled as D1 (1= Individual Inertia, 0=Social Inertia) and D2 (1= Social Inertia, 0=Individual Inertia) and data centered on the vertical collectivism (VC) scale (reliability of items $\alpha = 0.801$). The two different codings were employed to (a) test the between-subject factor interactions and (b) test the simple slope effects. The results of the GLM repeated measures analysis using these two codings are reported in Table 20 and Table 21. In the following section I report the results of steps 2 to 4 for each of the services.

E-Health:

***Step 2**: Test of between subject Interaction terms*

The GLM repeated measures procedure was run resulting in the following parameter estimates (the results are reported in Table 21): fixed factor dummy D2 (t = -1.033, *ns*), covariates—COLLECTIVISM (t = 0.237 *ns*), and the interaction dummy D2 X COLLECTIVISM (t = 1.679, $p < 0.1$). Note that the dummy D2 constrains social

inertia to the comparison group. Given that the interaction term reached marginal significance, I examined the simple effects using a procedure similar to the one described by Aiken and West (1991).

***Step 3**:Test of simple slopes*

The slopes for,Social Inertia and Individual Inertia, were estimated and tested at High collectivism (1 standard deviation above the mean) and Low collectivism (1 standard deviation below the mean). I obtained the simple slopes of Social Inertia using dummy variable D1 in the GLM procedure (Individual Inertia—comparison group), and Individual Inertia using dummy variable D2 in the GLM procedure (Social Inertia—comparison group). The results from these two GLM procedures are reported in Table 20 and Table 21. The parameter estimates of collectivistic orientation from these two analyses gave me the slope of Social Inertia ($b= 0.63$, $t = 2.488$, $p < .05$) and Individual Inertia ($b=0.055$, $t = 0.237$, *ns*). The slopes for these two lines are plotted in Figure 3. I found that the slope of Social Inertia was positive and significant; however, Individual Inertia had a non-significant regression slope. The significant positive slope for Social Inertia indicated that it induced a lower WTP under conditions of low COLLECTIVISM than under conditions of high COLLECTIVISM. This finding was contrary to the prediction made in hypothesis **H1**: W*hen social inertia is induced, the willingness to pay for a new service is reduced for respondents high on collectivism, but not for those low on collectivism.* The evidence from this experiment suggested $WTP_{S.I:High} > WTP_{S.I:Low}$ instead of the prediction $WTP_{S.I:High} < WTP_{S.I:Low)}$.

However, the non-significant regression slope for Individual Inertia indicated that Individual Inertia induced similar WTP effects across the High-Low Vertical COLLECTIVISM ($t = 0.237$, *ns*). This finding is consistent with the prediction made in hypothesis **H2**: W*hen individual inertia is induced, the willingness to pay for a new service is same for respondents high on collectivism and those low on collectivism.* The non-significant simple slopes for Individual Inertia indicated that there is no significant difference in the WTP for respondents low on collectivism and those high on collectivism. The findings suggested that $WTP_{I.I:High} = WTP_{I.I:Low}$, the prediction based on hypothesis 2. The reversal of hypothesis **H1** forced me to skip ***step 4*** for this service.

E-Disaster:

Step 2: Test of between subject Interaction terms

The parameter estimates from the GLM repeated measures procedure for E-Disaster were the following: fixed factor dummy D2 ($t = -1.602$, *ns*), covariates– COLLECTIVISM ($t = -.718$, *ns*), and the cross product dummy D2 X COLLECTIVISM ($t = 2.902$, $p < 0.01$). Given that the interaction term reached significance (Table 21), I examined the simple effects.

Step 3: Test of simple slopes

The slopes for Social Inertia and Individual Inertia were probed at High collectivism (1 standard deviation above the mean) and Low collectivism (1 standard deviation below the mean). The parameter estimates of collectivistic orientation from the two GLM procedures (Table 20 and Table 21) give the slope of social inertia as (*b= 0.72,*

t = 3.272, p < .05) and individual inertia, (*b=-0.144, t = -0.718, ns*). The slopes for these two lines are plotted in Figure 4. I found that the slope of Social Inertia was positive and significant; however, Individual Inertia had a non-significant regression slope. The significant positive slope for Social Inertia, illustrated that Social Inertia induced a lower WTP under conditions of low collectivism than under conditions of high collectivism. As with E-Health, this result was just the reverse of what I had predicted in hypothesis **H1**.

The non-significant regression slope for Individual Inertia indicated that Individual Inertia induced similar WTP effects across High-Low COLLECTIVISM (*t* = 0.237, *ns*). As with E-Health, this finding supported the prediction I made in hypothesis **H2**: W*hen individual inertia is induced, the willingness to pay for a new service is the same for respondents high on collectivism and those low on collectivism.* The non-significant simple slopes for Individual Inertia indicated no significant difference in the WTP for respondents low on COLLECTIVISM and those high on COLLECTIVISM ($WTP_{I.I:High} = WTP_{I.I:Low}$), which is hypothesis 2. As was the case with E-Health. I did not proceed with ***Step 4,*** because I had predicted a reduction in WTP when social inertia is induced rather than an increase in WTP.

E-Networking and E-Shopping:

Step 2: Test of between-subject Interaction terms

The parameter estimates from the GLM repeated measures procedure for E-Networking and E-disaster reveal that the INERTIA X COLLECTIVISM interaction

terms (E-Networking t = -0.602, ns, and E-Shopping t = 0.717, ns) were not significant. Therefore, I did not proceed with ***Step 3***, examining the simple slope effects.

7.2.e Discussion

The non-significant simple slope of Individual Inertia that I obtained for each of the four services involved in this study provides support for hypothesis **H2**. This finding suggests that when the stimulus is Individual Inertia, the WTP is largely unaffected by the individuals' collectivistic orientation. This finding supports the prediction of SCT. SCT predicts that the salience of social identity will be inhibited to the degree that the personal identity is made salient; no matter what your collectivistic orientation is, you will have a salient individual identity. Therefore, the WTP is not influenced by the differences in collectivistic orientation. Hence, there is no difference in the WTP for different services along the collectivism continuum.

In contrast, the positive simple slopes of collectivistic orientation in the case of E-Health and E-Disaster when Social Inertia is induced suggests a failure in the prediction of SCT. Although I obtained the very reverse of what I had predicted in hypothesis **H1**, the fact that the WTP increased with an increase in the individual's collectivism fails to provide support for SCT. The SCT would have predicted a similar WTP for all individuals, no matter what their collectivistic orientation.

Based on SCT and the cross-cultural research, I expected the individual's social identity to become salient when Social Inertia was induced. This salience of social identity would then cause individuals to be influenced by the communities' reluctance to accept the new service. Yet, based on cross-cultural research, I expected that individuals

low on collectivism would not be influenced by social opinion because their stable individual identities would not be influenced by the group's social identity. Therefore, I expected that individuals low on collectivism would not be influenced by the communities' reluctance to accept the new service. Consequently, I expected individuals high on collectivism to have a lower WTP. Post hoc, I realized that there was another process that could have occurred concurrently, and in doing so would lead to a result the reverse of my prediction in **H1**. I believe the salience of social identity could have also influenced the participant to focus on the community benefits in having this service. Respondents focused on the benefits that a new service could bring to the community, likely place a higher value on the service in question. This effect, it would seem, came into play, interacting with and confounding the Social Inertia I induced. Therefore, I conclude that there could have been two processes acting simultaneously, the salience of social identity and the social inertia. Although social inertia caused a lowering of WTP, the net effect of social salience and social inertia could then have resulted in the higher valuation of E-Health and E-Disaster in Experiment 1. Therefore, I need, to restate hypothesis H1 that I proposed in Chapter 6, before proceeding to a discussion of Experiment 2. The need is to account for these two processes, one that comes about in response to the salience of social identity, and the other, which has both the salience of social identity and social inertia. Therefore, the following revised hypothesis is proposed:

Hypothesis H6: *For respondents high on collectivism, the willingness to pay for a new service is lower when social inertia (vs. social salience) is induced.*

$$\mathbf{H6:\ WTP_{Social\ Inertia:\ High} < WTP_{Social\ Salience:\ High}}$$

Subsequent to examining each individual service, I surmised that there would be a significant interaction effect of inertia and collectivistic orientation for social goods (E-Health and E-Disaster) and an absence of significant interaction effect in the case of private goods (E-Networking and E-Shopping). This difference would be the key leading to the significant three way interaction between *Good,* inertia and collectivistic orientation. By inducing social inertia in high collectivistic participants, I caused an increase in the WTP for social goods. But the same effect was not obtained for private goods. However, examining the directionality of the effect, I predicted a greater reduction in WTP for social goods than for private goods (hypothesis **H4**). It is not surprising that I obtain a reversal in this effect since this follows the reversal of hypothesis **H1**.

This experiment provided support for my prediction that the social inertia effect is greater for social goods than for private goods. The findings allowed me to infer that the valuation of social goods is affected to a greater extent by the individual's collectivistic orientation than it is for private goods. However, the findings failed to support my prediction with regard to the second within-subject factor, *Usage*. I predicted that E-Networking and E-Disaster services would be influenced more by social inertia than would E-Shopping and E-Health services. The non-significant interaction effects of *Usage* with contrast and collectivistic orientation failed to support this prediction.

In hindsight, the absence of a social salience effect for private goods was not surprising. Social networking is perceived to be a private good used publicly. I predicted that since the good is used publicly, there would be an influence of collectivistic orientation when social inertia was induced. However, contrary to my expectation, I

failed to get any support for this prediction. Afterwards, I explored various possible reasons why this effect was absent. One possibility is that private goods are not influenced by social inertia. A second possibility is that an exisiting, free-of-charge (though supported by advertising) service influenced the respondents' evaluation of the updated service in question. This could explain why I obtained a large number of zero WTP results for e- networking (52 of 67) and e-shopping (34 of 67). The third possibility is that these student respondents did not fully grasp the innovative features characterizing this new service and so could not appreciate its incremental value. Given these multiple, potential explanantions, I cannot make any definitive statements pertaining to these services other than to recommend that future research should focus on other private services.

7.3 Experiment 2

As explained earlier, the effect of social identity and social inertia on the evaluation of services could be confounded. This could occur with the salience of social identity having either a positive or negative effect on the respondents' WTP. Therefore, two processes are possible. First, the salience of social identity could have a positive effect on the subjects' evaluation and social inertia, a negative effect. Second, both social identity and social inertia could have a negative effect. In Experiment 2, I focused on the first scenario. In this case, the participant sees value in others using the services, especially his community members. In addition, he perceives a reluctance to change among the people in his community. This scenario can lead to a positive evaluation if the perceived community benefits prove greater than the social inertia, and negative if social

inertia proves greater than community benefits. Either way, the effect of social inertia would be a lower WTP in comparison to the WTP when only social identity is salient. Therefore, I focus on identifying the WTP when (a) both social salience and social inertia are present and, (b) when social salience alone is present. I predict that when inducing social salience with social inertia the result will be a lower WTP than when social salience alone is present. Therefore, in Experiment 2, I added a third context, one in which social identity was salient (without social inertia). I replaced the Individual Inertia level in Experiment 1 with control to test for my third hypothesis, **H3**.

7.3.a Research Design

I employed a between-subjects design with context designated as a 3 level factor (Context: Social Inertia, Social Identity, Control) to identify the role of collectivistic orientation, here treated as a continuous variable.

7.3.b Participants

One hundred and forty two undergraduates (seventy-one males and seventy-one females) drawn from the University of Alberta, Volunteer Research Participation Pool participated in the study. Each received an honorarium of Cd$12 for his or her participation.

7.3.c Materials and Procedure

The procedure in Experiment 1 was repeated. The scenarios were manipulated so as to induce neutral salience (control), or social identity salience, or social identity

salience with social inertia. Under each of these three conditions, participants were asked to evaluate four services. In addition, I introduced one deviation from Experiment 1: at the beginning of the study all participants were informed by the investigator that the services had been proposed without any discussion of advertisement revenues. The participants were then asked to evaluate the services taking into account this additional information. An example of a scenario in the case of e-health is given below (see Appendix 6 for descriptions of the other three services' scenarios):

Scenario1: Control

> The Alberta government is proposing a new electronic-enabled health service to improve the existing system. E-health empowers citizens by bringing health information, products, and services online. With the help of the new system one can get the services of a specialist through videoconferencing even while consulting the primary doctors. Test reports and other medical records could be transmitted, diagnosis performed and treatments specified.

In the case of the condition in which social identity is salient, the scenario is as follows:

> The Alberta government is proposing a new electronic-enabled health service to improve the existing system in my community. E-health empowers people in my community by bringing health information, products, and services online.With the help of the new system a patient in my community can get the services of a specialist through videoconferencing even while consulting the primary doctors. Test reports and other medical records could be transmitted, diagnosis performed and treatments specified.

Under the condition designated social inertia and social identity salient, the scenario is as follows:

> The Alberta government is proposing a new electronic-enabled health service to improve the existing system in my community. E-health empowers people in my community by bringing health information, products, and services online.With the help of the new system a patient in

> my community can get the services of a specialist through videoconferencing even while consulting the primary doctors. Test reports and other medical records could be transmitted, diagnosis performed and treatments specified.
>
> However, this type of e-health method of health care delivery is new to my community, where people are accustomed to face-to-face interactions with a specialist. We would prefer the continuation of the existing personal contact while consulting specialist. In addition, we are worried about the transmission of personal records using the network.

After reading the scenario, the respondent answered a set of questions similar to those identified in Experiment 1.

7.3.d Results

Before proceeding with the analysis, I checked the three constructs, resistance to change *(Scale Reliability α: .853,Equality of means across conditions: F(2,139)=0 .756, p= n.s.),* CIJM *(α: .917, Means: F(2,139)=0 .441, p= n.s.)*, and CNS *(α:938, Mean: F(2,139)=0 .680, p=n.s.)*. The three constructs did not differ under the three conditions of social identity, social inertia and control[3]. In an initial test of the dependent variable (reported in Table 22) the dollar amount of WTP met the assumption of equality of error variances among the groups. However, on examining the Box's Test of Equality of Covariance Matrices (reported in Table 23) the violation of the assumption of homogeneity became evident. Although LaTour and Miniard (1983) recommend ignoring the test, I tried both the square root and log transformation of the raw WTP data. I found both transformations met the assumption of homogeneity. As in Experiment 1, I used the Square root transformation of the WTP as the dependent variable.

[3] In addition, in my overall analysis I used each of these three variables as covariates in the GLM procedure to see its influence on the WTP. Each of these variables was insignificant and didn't alter the results.

Moreover, I used dummy coding for the three level factor context (social salience, social inertia and control). The manipulations were modeled using six dummy variables D1 to D6 (shown in Table 24) to test for the various effects. The dummy variables D1 (0=Control, 0= Social Inertia and 1=Social Salience) and D2 (0=Control, 1= Social Inertia and 0=Social Salience) constrained control as the comparison group. In ***Step 2*** these dummy variables and the vertical-collectivism-centered data (reliability of items $\alpha = 0.801$) allowed me to test for the between-subject factors interaction effect. In ***Step 3***, the six dummy variables allowed me to test for the simple slope effects.

Step 1*:Test of within-subject factors and between-subject factor interactions.*

The overall results of this design were first examined using the GLM repeated measure procedure (results are reported in Table 25). The results for the first within-subject contrast, *Good,* showed that it's three-way interaction with collectivistic orientation and social salience ($F(1,136) = 3.72, p<0.1$) was marginally significant and its three-way interaction with collectivistic orientation and social inertia ($F(1,136) = 6.33, p<0.05$) was significant. These two finding suggest that there is a difference in the respondents' WTP for social and private goods, and that this difference is influenced by context, collectivistic orientation and their interaction. This provides partial support for hypothesis **H4**. But for the second within-subject contrast, *Usage* (Private versus Public), only the main effect was significant ($F(1,136) = 35.83, p<.001$). Its two-way and three-way interactions were not significant. Therefore, as in Experiment 1, the findings failed to support the prediction in hypothesis **H5**: W*hen social inertia is induced for respondents with high collectivism (vs. low collectivism), the willingness to pay for a new*

service decreases more in the case of goods used publicly than in the case of goods used privately.

These overall results suggest that only *Good*, social versus private difference, is influenced by context, collectivistic orientation and their interaction. To probe this difference further, I had to examine the interaction between inertia and collectivistic orientation for each service. Only then could I find support for the claim that this difference leads to greater lowering of WTP for social goods compared to private goods. Consequently, I examined the remaining three steps for each service.

E-Health:

Step 2: Test of between subject Interaction terms

I ran the GLM repeated measures procedure on the square root transformed WTP. The interaction terms D1 X COLLECTIVISM ($t = 2.671$, $p<0.01$) and D2 X COLLECTIVISM ($t = 1.94$, $p <0.1$) were both significant. Given that the individual interaction terms did reach significance, I conducted the simple effects tests using the three contrasting groups.

Step 3:Test of simple slopes

The slopes for the three levels were probed: one for Social Salience, one for Social Inertia, and one for Control at High COLLECTIVISM (1 standard deviation above the mean) and Low COLLECTIVISM (1 standard deviation below the mean). I obtained the simple slope of control using dummy variable D1 and D2, simple slope of social

salience using dummy variable D3 and D4, and simple slope of social inertia using dummy variable D5 and D6 using the GLM procedure. I found that the parameter estimate of collectivistic orientation for both social salience (reported in Table 28) (b = *.58, t = 4.73, p < .001)* and social inertia (reported in Table 30) (b = *.48, t = 3.12, p < .01)* are positive and significant. However, for control (reported in Table 26) the parameter was not significant (*b = .054, t = 0.35, ns).* The slopes for these three lines are plotted in Figure 7. The non-significant slope for control indicates that there is no significant difference in the WTP for E-Health for individuals high on collectivism and those low on collectivism. This finding supports my prediction in *hypothesis* **H3**: *When everything else remains the same, a consumer's collectivistic orientation will have no effect on the willingness to pay for a new service* or $WTP_{Control:High} = WTP_{Control:Low}$.

The significant positive slope for both social salience and social inertia indicates that these manipulations induced a lower WTP in individuals with low collectivism than in individuals with high collectivism. But as the figure illustrates, social inertia induced lower WTP for the high VC condition as compared to social salience. This finding supports my prediction in hypothesis **H6**: *For respondents high on collectivism, the willingness to pay for a new service is lower when social inertia (vs. social salience) is induced.* The evidence suggests that $WTP_{SOCIAL\ INERTIA\_HIGH} < WTP_{SOCIAL\ SALIENCE\ HIGH}$ directionally; however, I needed to test this difference for significance. To do so, I proceeded to ***Step 4***.

Step 4: Test of differences between regression lines at a specific point (+ 1 SD)

In ***Step 3*** I obtained partial support for my prediction in hypothesis **H6**. The social inertia line was below social salience indicating a lower WTP in the presence of social inertia. However, to test if this drop was significant, I probed the differences between the regression lines at + 1SD. I ran a GLM procedure to test whether the predicted values for the social salience group and the social inertia group differed at a specified value of collectivism. The coefficient of collectivism represents the distance between the regression line for social salience and social inertia when the value of collectivistic orientation is + 1SD (Aiken and West 1991). I used dummy variable D1 because I was testing the difference between two regression lines (ignored control in this analysis), and collectivism was transformed as (collectivism_centered + 1 SD). The results are reported in Table 31. The test of significance for the difference between the two regression lines at + 1 SD was given by the test of b_1 the coefficient of collectivism, and this was significant ($t = -2.59$, $p < .01$). This supports the prediction in hypothesis **H6**: *For respondents high on collectivism, the willingness to pay for a new service will be lower when social inertia (vs. social salience) is induced.*

E-Disaster:

Step 2: Test of between subject Interaction terms

The GLM repeated measures procedure output for E-Disaster indicated that the interaction terms, D1 X COLLECTIVISM ($t = 2.67$, $p<0.01$) and D2 X COLLECTIVISM ($t = 1.77$, $p <0.1$), were both significant (see Table 26). Given that the

individual interaction terms reached significance, I conducted the simple effects tests using the different contrasting groups.

Step 3: Test of simple slopes

The slopes for the three levels were probed: one for Social Salience, one for Social Inertia, and one for Control at High collectivism (1 standard deviation above the mean) and Low collectivism (1 standard deviation below the mean). I found that the parameter estimates of collectivistic orientation for social salience (reported in Table 28) were (b = *.63, t = 5.25, p < .001)*; while for social inertia (reported in Table 30) they were (b = *.49, t = 5.25, p < .01*). These results are both positive and significant. However, the parameter estimate for control, (reported in Table 30) is not significant (*b = .12, t = 0.76, ns).* The slopes for these three lines are plotted in Figure 8. The non-significant slope for control indicates that there is no significant difference in the WTP for individuals high on collectivism and those low on collectivism. The findings support the prediction in *hypothesis* **H3***: When everything else remains the same, there is no effect of a consumer's collectivistic orientation on the willingness to pay for a new service.*

The significant positive slope for both social salience and social inertia illustrates that the manipulations induced a lower WTP under conditions of low collectivism than they did under conditions of high collectivism. In addition, as the figure illustrates, the social inertia induced lower WTP for high collectivism than it did for social salience. This result supports hypothesis **H6**. My evidence does, indeed, suggest that WTP_{SOCIAL}

$WTP_{INERTIA\_HIGH}$ < $WTP_{SOCIAL\ SALIENCE\ HIGH}$ directionally; however, as in the case of E-Health, I needed to test the difference in WTP for significance. To do so, I proceeded to ***Step 4***.

Step 4: Test of differences between regression lines at a specific point (+ 1 SD)

In ***Step 3***, I obtained partial support for my prediction in hypothesis **H6**, as the social inertia line is below social salience, which indicates a reduction in WTP in the presence of social inertia. However, to test if this drop is significant, I repeated **Step 4** as explained and described earlier under the heading of E-Health. I ran the GLM procedure using dummy variable D1, and the continuous variable collectivism was transformed as (collectivism_centered + 1 SD). The test of significance for the difference between the two regression lines at + 1 SD is given by the test of b_1, and it was significant ($t = -2.10$, $p < .05$). This finding also provides support for hypothesis **H6**. This result supports the prediction that although social salience induces a greater WTP for this service, the presence of social inertia always lowers the WTP.

E-Networking:

Step 2: Test of between subject Interaction terms

The parameter estimates from the GLM repeated measures procedure for E-Networking revealed that the D1 X COLLECTIVISM ($t = .94$, *ns*) and D2 X COLLECTIVISM ($t = -.47$, *ns*) interaction terms were not significant. Given this I, did not proceed with the simple effects test. Nevertheless, for illustration purposes, I plotted the three simple slopes for E-Networking (see Figure 8).

E-Shopping:

Step 2: Test of between subject Interaction terms

The parameter estimates from the GLM repeated measures procedure for E-Shopping revealed that the D1 X COLLECTIVISM (t = .02, *ns*) and D2 X COLLECTIVISM (t = -1.31, *ns*) interaction terms were not significant. Given this, I did not proceed with the simple effects test. However, I did plot, for the sake of illustration, the three simple slopes for E-Networking (see Figure 9).

At this point, I examined the findings from ***Step 1*** and ***Step 4*** for each of the four services. I was able to summarize the following: 1) There is a difference in the respondents' WTP for social and private goods and this difference is influenced by context, collectivistic orientation and their interaction; 2) In the case of social goods, E-Health and E-Disaster services, even though the social salience induced a greater WTP, the presence of social inertia always lowered the WTP; 3) In the case of private goods, E-Networking and E-Shopping, both social salience and social inertia had no differential effect on the WTP. These three findings provide support for the prediction made in hypothesis **H4**: W*hen social inertia is induced for respondents with high collectivism (vs. low collectivism), the willingness to pay for a new service decreases more in the case of social goods than in the case of private goods.*

7.3.e Discussion

The present study provides evidence that social inertia prompts individuals who are high on collectivism to have lower WTP for new services. In this study, there was no direct physical presence of the community, only the imagined or implied presence. I show that even mere information about the community's perceived reluctance in changing an existing service, can lower the WTP for certain services. Both experiments support my prediction that social inertia reduces the WTP for individuals high on collectivism. These findings suggest that this lowering of WTP happens in the case of social goods. However, I do not find evidence to support a lowering effect in the case of private goods.

The results from my study cannot confirm whether this social inertia effect occurs only for social goods. Although both experiments failed to find significant effects of social inertia in publicly-used private goods (E-Networking), I believe that future research is needed on these types of private services. Although Type of Usage had no significant effect on the WTP in either experiment, I recognize that I have little evidence that would rule out usage effects. Therefore, I can only state for certain that the findings in this study suggest that social inertia influences the WTP for social goods.

I also noted that this social inertia effect was obtained while working with a sample of North American students, who possess a stable independent self. This is a key point. When the context was individual inertia, there was no difference in the WTP due to the differences in collectivistic orientation. Similarly, when the context was neutral, there was no difference in the WTP. However, when social inertia was the context, the individuals' collectivistic orientation did matter. My findings show that, within the same

culture, the difference in collectivistic orientation leads to attitudinal difference in the WTP for new services.

There are a number of possible reasons for the non-effects of type of usage in private goods. For example, perhaps the respondents did not truly appreciate the innovativeness of the private services as compared to the public services. On the other hand, perhaps student's zero evaluations could have confounded research results. Recall that even though the instructions presented to the respondents made it clear that there was no advertisement revenue for the private services, many respondents reported zero valuations (especially in case of E-Networking). Therefore, it would be useful to test my predictions with a publicly-used private service that is more innovative. These and other possible explanations need to be explored further in future research.

7.4 Theoretical Contribution

My research makes an important contribution to the theoretical literature. First, this study contributes to the literature on the dynamic nature of self. Self-categorization theory (Oakes, Haslam & Turner, 1994) proposes that the salience of a social identity is context-dependent. The salience of identity, either social or individual is dependent upon the particular social comparisons that are made in a given context. In this particular study, I tested to determine if this theory would hold for people who differ on their collectivistic orientation. If SCT were indisputable, then no matter what the individual's collectivistic orientation, social identity would be salient whenever the context involved a comparison with an out-group. However, based on the findings of cross-cultural research on the independent and interdependent self, I predicted that this context-dependence would only

apply to those who are high on collectivism (as for example, Asians) and not to those low on collectivism (for example, North Americans). Using two experiments, I provided evidence to support my prediction: when the context makes the social identity salient, SCT fails to hold true for people low on collectivism, though it does hold true for people high on collectivism. In addition, in Experiment 1, I provided evidence suggesting that one cannot rule out the SCT prediction when the context makes the individual identity salient. Given that, when individual inertia is induced, there will be no difference in people's evaluation. Further, in Experiment 2, I found that if the context is neutral (that is, neither the social nor the individual identity is made salient), the WTP is not affected by an individual's collectivistic orientation. My work also contributes to theory on the dynamic nature of the self in my description and use of a test used for assessing the dynamic nature of self within a same-culture. I have demonstrated that, within a North American context, people will differ on their collectivistic orientation, and that this difference will have no effect in some cases (such as when the context makes individual identity salient, or when the context is neutral), but in other cases it can lead to differences in attitudes (such as when social identity is made salient).

Second, this paper adds on to the literature on social influences. In this study, I demonstrate the influence of an individual's perception of his/her community's reluctance to accept a product on his own evaluation of a new service, that is, the concept of social inertia. Social inertia occurs even without the direct, physical presence of community members. In the scenarios that I developed and presented to respondents, I described benefits for either the community or the individual. In the scenario demonstrating the social inertia condition, I do provide some additional information

regarding what the community is presently using. However, I provide no description or direct information regarding the community's preference, whether for the existing service or the innovative service. Since the scenarios do not state the community's preference, the individual's *perception* of community preference is all that is likely to influence his or her evaluation. Therefore, my study goes beyond the work described in the group-influence literature because, in this case, the individual is not in direct contact with the referent group, nor has s/he been informed about the group's preferences. It would be fair to add here that when there is physical contact and/or communication between the individual and the group such that the individual becomes aware of the communities position regarding the product, social inertia might, in fact, dissipate and social contagion occur, leading to mass adoption. Future research needs to examine this issue.

Finally, although the purpose of this paper was to show the presence of social inertia, in the process I was able to show the influence of salience of social identity on the evaluation of new services. This finding has relevance to the literature on valuation of public goods. In this stream of literature, researchers have the tough task of associating a monetary value to public goods. Environmentalists, public policy makers and others have been using methods such as contingent valuation and choice experiment, among others, to associate a monetary value with a particular public good. My research could prompt questions concerning their valuation process. As part of their valuation methodology, the researchers generally describe a public good (either a real or hypothetical one) and the respondents are then asked to value these services based on the description. My paper raises the question of how the particular ways in which these descriptions are construed might influence the participants' responses. It becomes important whether these

descriptions have been stated so as to make the personal identity salient or the social identity salient, or to leave the situation neutral. I have no answer as to what would constitute an appropriate or 'right' approach, but I have provided evidence that demonstrates that when these contexts causes differences in social or individual identity salience, the valuations will be different, too. Therefore, future research needs to be conducted to find the most appropriate way of communicating new public goods in a valuation exercise. Moreover, researchers will need to determine what constitutes the right value for a public good: is it the individual's own value, (in which case, s/he would be driven by personal benefits) or the value that s/he perceives for the community, (in which case, s/he would be driven by social benefits), or a weighted combination of both?

7.5 Practical Implications

This study has pragmatic implications for policy makers and marketing managers as well. First, this research is important to policy makers who are interested in the development and deployment of social programs, products and services. For their perspective, social goods are meant to meet the demands of those segments of society who are left out when market mechanisms fail to reach them for various reasons. For example, focusing on the issue of a rural/urban digital divide, policy makers are interested in an accelerated diffusion of Information and Communication technologies (ICTs) throughout rural areas. If policy makers are interested in rolling out social goods such as the Internet and its content to rural households, then they need to be aware of the effects of social inertia and salience of social identity (since rural households tend to be more collectivistic than urban households). When the social identity is made salient, in

the case of social goods that have perceived social benefits to communities, the WTP increases as the collectivistic orientation increases. When individual identity is made salient, or when the context is neutral, the WTP is lower. This result draws attention to the fact that the WTP figures obtained by using descriptions that are neutral will be lower than when those descriptions induce social identity. Therefore, policy makers need to make certain which WTP they want to assess. Should they use the WTP obtained when the individual identity is made salient or the WTP when the social identity is made salient? Furthermore, they need to keep in mind the effect of social inertia. My findings support my prediction that social inertia can reduce the WTP for certain goods for people from certain communities. Therefore, before finalizing a decision, policy makers need to evaluate the new goods after dealing with the effects of social inertia. New goods should not be put on hold because people did not evaluate them favorably.

In this regard, I believe that the valuation of any new social good is more susceptible to social inertia. When policy makers choose to use survey techniques in order to value a new social good, naturally, surveys must take place when a project is in its infancy. During this stage communication between the agency and those communities regarding the new good is usually unclear. Additionally, there is usually little communication among the community members concerning this new good. In a case such as this, community members who are asked to evaluate a new good are more likely to be influenced by their perception of the communities' resistance to change. And even if they perceive the new good to be useful personally, if they do not know the community's stand on the good, they are apt to assign it a lower value based on the community's resistance to change. Thus, the values obtained from such a survey could be

biased. In such a situation, I recommend that proper communication within the community should be established so as to remove any incorrect perceptions petaining to the community's resistance to change. Only after undoing the effects of social inertia, should any evaluation exercise be conducted. However, I would like to differentiate what I state here from the role of social contagion that drives Bass's S-shaped diffusion curves. The Bass model specifies the rate at which individuals who have not yet adopted will do so at time t as $r(t) = p + qF(t)$, where $F(t)$ is the cumulative proportion of adopters in the population, and p and q are constants. Parameter p captures the intrinsic tendency to adopt, and parameter q captures social contagion, that is, the extent to which prior adoptions affect one's tendency to adopt. Therefore, the role of communication in social contagion has been well established in the diffusion literature. However, when I recommend that 'proper' communication be established, I do not mean the communication involving the late majority and laggards identified within Rogers's adoption curve. I refer to communication between the agency and innovators *and* the disadvantaged community's early adopters. For ICTs, in particular, it is not just diffusion throughout the disadvantaged community that is necessary, what such communities need is accelerated diffusion. Until disadvantaged communities are comprised of primarily early adopters and the ICT product/service in question has an approximately three-year product life, the digital divide will always persist. Therefore, communication within the community itself should take place at an early stage in product development if accelerated diffusion is to occur. Communication of this sort should provide clear explanations of the imminent social benefits of the ICT product/service for members of

the community; if it does, maintaining a status quo based on a perceived resistance to change among the group members can be reduced.

Marketing manager unable to penetrate these segments of the population with their products should also realize the effects of social inertia.If they assume that the differences between communities are due solely to economic reasons they maynot be completely right. They may also need to realize that there are attitudinal differences between communities that ought to be addressed. By considering and adjusting to social inertia, market mechanisms may succeed in penetrating these segments of society. If the marketing mechanism can improve their penetration, this can reduce the need for governments to intervene and support the diffusion of such services.

7.6 Conclusion

In this chapter, I examined social inertia, a social influence that affects individuals who rate high on collectivism. Findings from this study support my hypothesis that the presence of social inertia in individuals high on collectivism serves to decrease the WTP for social goods. Although this effect is absent in private goods, I believe future research should explore the effect of social inertia in private goods, too. In addition to my examination of social inertia, I also test for the prediction of SCT among individuals with differing levels of collectivism. The SCT fails to predict when the context was social inertia. Only people high on collectivism were influenced by the context and their social identity was made salient. The individuals low on collectivism were not influenced by this prime, an effect that goes against predictions arising from the SCT literature. But in the case of individual inertia, I cannot rule out the applicability of SCT, since the

respondents evaluated the social goods without any significant difference due to collectivism.

This chapter also explained that the stable self for people low on collectivism is an effect that can be extended from the cross-cultural literature. However, cross-cultural research tends to categorize individuals based on their country of origin. Predictions arising out of cross-cultural research, therefore, can also apply to those living within a same-culture context. In this chapter, I show that within a North American province, there are people who can be categorized as both low and high on collectivism,

In the end, I would like to extend this research to other social marketing areas of concern. Researchers need to examine whether or not this social inertia exists among communities comprised of members who develop and form ties on the basis of anti-social behaviour such as smoking, drug addiction, alcoholism, and so on. Do such communities, in fact, exist? And if so, does this common anti-social behavior bring about a bonding that is so strong that social inertia creeps in? If so, social campaigns developed to eradicate these anti-social behaviors could benefit by learning to take the appropriate steps to remove social inertia and, subsequently, set up the most advantageous context for driving home their message.

8. Conclusion

I conclude this thesis by summarizing the findings from my studies. In this chapter, I discuss the findings that substantiate a growing need to re-conceive and re-examine the digital divide as a social divide marked by inequality. Lastly, I explain the role that marketing can play in understanding the needs of the population and, consequently, in formulating strategies for the development of society.

8.1 Introduction: The Research Questions

My goal in conducting this study and writing this thesis was to answer two key research questions. The reader will recall the first: '*How does the type of content and service available via the Internet influence rural and urban households' evaluation of the Internet?*' This question emerged as I discovered that a major portion of the existing literature focuses on the issue of access and use of existing ICTs. However, recent work in this area has clearly highlighted the need to examine the digital divide in terms of digital inequality. Responding to this need, I selected the issue of motivation-to-use the Internet as a key focus of my research. In economic terms, this motivation can be understood in terms of a cost benefit analysis. However, when I looked at Internet purchase and use, I realized that I would need to conceptualize Internet purchase, not simply as an economic exchange, but as a mixed exchange, an exchange characterized by *both* economic and social factors. Therefore, I chose to study Internet purchase from a marketing point of view by examining the *Internet Service Provider (ISP)—Household*

exchange within a framework provided by Social exchange theory and from the perspective of the household. I focused on the basic exchange process and examined the influence of social acceptance upon the rewards and costs associated with an exchange involving the evaluation of a new good.

The next step was to establish the methodological foundation for addressing my first research question. I used preexisting—compiled in 2002—choice experiment survey data that examined the values of various types of Internet content and services that were in use at that time. I used this CE survey to highlight my assertion that content and service do make a difference. Later, I conducted a second CE survey that examined internet content and service that was proposed to target rural households. I used this CE survey and the data collected to highlight the fact that if ideal content and service could be made available to rural households they would value it far more than would urban households. I carefully accounted for the known social economic descriptors of the digital divide namely, age sex, education and income. Moreover, I accounted for additional constructs and measures that I proposed would have an influence in the valuation of these new services. In the end, the results from these two surveys enabled me to answer my first research question.

I also needed to resolve my second research question: '*How does the social structure of communities (rural/urban) influence the evaluation of Internet content and service?*' In order to arrive at an answer to this question, I examined the literature on the dynamic nature of self as well as the cross-cultural research searching for some insight into the factor of social acceptance in different communities. Initially, I planned to run an experiment using students from rural communities and urban centres with the aim of

examining their attitudinal differences. However, when I pretested to check on the location-based differences in collectivistic orientation, I failed to obtain the expected result of rural students being more collectivistic that urban student. Therefore, instead of focusing on just rural and urban consumers, I decided to use the collectivistic orientation as a continuous dispositional variable. Using various scenarios, I induced the necessary manipulations such as social inertia, individual inertia, and social salience. Pretests were conducted to select the four electronic services that fall under the four cells formed by the Type of Good (Private vs. Social) and Type of Usage (Private vs. Public). The scenarios that were used to induce the necessary manipulations were also pretested. Experiment 1 was run to test for a difference in social inertia and individual inertia. I was able to provide support for my hypothesis that social inertia was indeed different from individual inertia. That led to Experiment 2, in which I tested to see why social inertia exists and how it manifests itself. In doing this, I was also able to test for the applicability of Self Categorization Theory (SCT) in the case of a sample of students from a North American province. These two experiments provided answers to my second research question.

8.2 Summary of Findings

In Study 1, I determined that demographic descriptors, specifically age, sex, income, education and community, influence the valuation of electronic services significantly at the level of 0.10 when it comes to High Speed Internet access (in fact, among these descriptors, only community is not significant at the 0.05 level). These findings fall in line with the literature examining the digital divide and its specific

descriptors. However, in this study I demonstrated that the effect of community *size* (rural-urban) is significant at 0.10 level, even when one controls for demographic effects. The community size is strongly positive for high-speed access and dial-up access, but negative and not significant for other access options. I identified a strong negative relationship between age (vs. a positive relationship between each of these, education and income) *and* the probability of choosing any one of the three forms of Internet access that I addressed within the study. In addition, males were significantly more likely to choose both high speed and dial-up forms of access. Most importantly, this CE survey revealed that urban households valued overall Internet content and services at $57.50, whereas rural households value it at $17.54.

In Study 2, I predicted that the perceived rewards associated with new and innovative Internet content would be greater than those associated with current Internet content and services. Specifically, I considered content, that has been geared towards the rural population and which would soon become available via SuperNet. In line with the results noted in the literature, the demographic descriptors age, income, education and community (but not gender) were all significant. I found a strong negative relationship between age and the probability of choosing any one of these three forms of access, and a positive relationship between education and the probability of choosing any one of the three forms of access. Furthermore, the effect of income in the case of high-speed access was positive and significant, but in the case of dial-up and other access it was not significant (also the case in Study 1). As well, gender had no significant effects with regard to high-speed and dial-up access, but did have a significant effect in the case of other forms of access. Finally, community size was negative for high-speed access and

dial-up access, but negative for other types of access. In brief, the more isolated the rural household, the more the members valued SuperNet content and services. In accordance with the exchange theory framework, and in contrast to Study 1, which dealt with traditional forms of Internet content and services, rural households valued the overall content and services of the SuperNet at $53.7, while urban households valued it at $28.61. These two studies provided answers to my first research question *'How does the type of content and service available via the Internet influence rural and urban households' evaluation of the Internet?'*

I recognized that other variables influence one's adoption of a new service; I accounted for three additional potential divide descriptors. Yet, even after accounting for them, rural households valued the content and service at higher levels than did urban households. This proved to be a key result. Individually the effects of these additional descriptors were as follows. The ***rural affinity*** construct had a negative relationship in contrast to my expectation that greater rural affinity would lead to a higher value on the content. However, the findings for both ***Availability of alternative access*** and ***Availability of Communication Technologies*** supported my prediction of a strong positive relationship with the probability of choosing any one of the three forms of access. In addition to these measures, I accounted for two key dimensions of the rural penalty—low density of population and greater distance to resources. The proxy for the low density of population was the ***Distance of household from community centre.*** This measure supported my proposition that there is a positive relationship between this form of distance and value. The proxy for greater distance to resources was the ***Distance between household communities to large urban city.*** This distance measure was

negatively related to the SuperNet value. In fact, the farther the household is from a major urban center, the lower the perceived value for content and services. However, I found that rural households placed a higher value on SuperNet content and service than did urban households. These two results provide evidence for the applicability of both the *global village* hypothesis and the *death of distance* hypothesis. Rural households that base their valuation of SuperNet on the benefits, were not paying the distance premium due to the affect of agglomeration economics, but rather due to the perceived benefits. Therefore, this type of distance did not matter to the rural household. However, I found evidence for a positive relationship between distance from the local community centre and value. Households established far from the local community are willing to pay a distance premium for the content and service provided by the SuperNet. However, I found this result only for urban households. The insignificance of the results obtained for rural households indicates that if these households do gain access to SuperNet-like services, the vision of the *death of distance* could very well become reality.

Furthermore, results pertaining to the individual values placed on each service, served to highlight the effect of social acceptance, what I have identified as the third factor in the exchange framework. I found urban households valued social goods such as e-disaster (urban, $ 2.13; rural, $0.93) and e-health (urban, $8.00; rural, $1.85) higher. I expected that the benefits to the rural household would override the role of high social inertia resulting in a higher valuation. Similarly, in the cases of the private good e-shopping, online transactions and financial services, contrary to my predictions, urban households valued these services higher than rural households (urban, $14.48; rural, $7.97). These findings prompted a need to examine the role of social acceptance further.

In Study 3, I applied the results from Experiment 1 for social goods to support my hypothesis that an individual is not only influenced by his own inertia in the evaluation of a new service, but also by the inertia of the community to which he belongs, the social inertia. I show that social inertia has greater influence on individuals high on collectivism (vs. those low on collectivism). However, contrary to my expectations social inertia induced a higher (vs. lower) WTP, as individuals' collectivistic orientation increased. But in the case of individual inertia condition, I did obtain results that support my hypothesis that the effect of individual inertia is not influenced by an individual's collectivistic orientation. In the case of private goods, I failed to obtain any effect of social inertia.

The results from Experiment 2 supported my hypothesis that social inertia reduces the WTP for individuals high on collectivism. I found that the results replicated the findings of Experiment 1, as the WTP was significantly greater for individuals induced with social salience (vs. both control and social inertia). From a theoretical perspective, the findings from this study suggest that SCT fails when social inertia is induced. Only individuals high on collectivism indicate a salient social identity; in contrast, individuals low on collectivism indicate a salient personal identity. However, when individual inertia is induced the WTP indicates a salient personal identity for all individuals.

The findings from the third study provided an answer to my second research question '*How does the social structure of communities (rural/urban) influence the evaluation of Internet content and service?*'

8.3 Concluding Comments

This research constitutes an important step towards understanding the digital

inequality that currently exists in both Canadian contexts and in general too. Many researchers have pointed to a need to examine the digital divide as a form of social inequality, and I believe that my project provides a solid stepping stone in this direction. Although I focused on the issue of the digital divide, I am convinced that the findings of this study will be applicable to examinations of other issues such as aids, abortion, drugs, obesity, and education. A study approach based on social inequality is likely to prove helpful in many research contexts

In addition, my research should alert policy makers and policy researchers the role that the marketing researcher can play in understanding the needs of citizens. Policy makers, I am sure, recognize that an understanding of community attitudes and behaviours can only make policy writers more successful in accelerating community acceptance of various programs and policies. The particular expertise that one develops in the field of marketing—an understanding of consumer behaviour on both the macro and micro level—can position market researchers as important players in the complex enterprise of identifying, preparing, and implementing successful public policy. But before they can benefit from this expertise, policy makers will need to undergo a paradigm shift, and adopt a very different view of the nature and function of the citizen as part of the process of formulating policy. They need to ask and then answer a key question: *'Is the citizen a consumer of a social good or just a beneficiary of it?'* If policy makers can make this shift then marketing can help them unravel the twisted threads and complicated knots that represent metaphorically the complicated matter of various social issues and problems and the inherent difficulty in addressing them.

Above all, I hope that this project highlights the wealth of knowledge that

researchers in marketing can offer policy makers as they seek to bring equality and advancement to disadvantaged citizens living in disadvantaged communities. As a marketing researcher myself, I feel strongly that we can contribute to role that policy plays in improving the lives of citizens by continuing to expand the depth of our knowledge on consumer behaviour, using whatever research methods are at our disposal and deemed appropriate for the particular problem under study, whether this be qualitative, quantitative, or mixed methods techniques. This is the contribution that the science of marketing has begun to make. Indeed, I am certain that marketing researchers will continue to play a key role in the process of formulating public policy that is first and foremost, directed towards establishing communities based on equal access, equal opportunity, and equal advancement.

TABLE 1

Representative papers-Exchange and the focal constructs

Authors	*Pure Economic Exchange*	*Power*	*Fairness*	*Emotion*	*Power and Status relations*	*Collective Action (coilation formation)*	*Trust*	*Communication*	*Distributive Justice*	*Social Ties/ Bonding*	*Ethics*	*Type of Exchange*
Hirschman(1987)	x											Personal Advertisements
Smith, Bolton and Wagner(1999)									x			Organization - Customer
Lambe, Spekman and Hunt(2000)							x			x	x	Relational Exchange
Ellis and Pecotich(2001)												Buyer Seller - Third Party
Alfrod(2002)		x	x			x	x					Public Sector Organization - Client
Rokkan, Heide and Wathne(2003)	x									x	x	Buyer – Supplier
Ritter and Gemünden(2003)												Firm – Firm
Waitt(2003)				x		x			x			Citizens – City
Johnson and Selnes(2004)	x						x					Firm – Customer

TABLE 2

The Rewards, Costs and Social Acceptance for a Rural Household ***Relative to*** Urban Household

	High Rewards, High Cost	*High Rewards, Low Cost*	*Low Rewards, High Cost*	*Low Rewards, Low Cost*
High Social Inertia	1 Education, training, career and job sites(I) 2 Entertainment and game(I)	1 Online shopping services(I) 2 Government and public sector(I) 3 e-Learning(II) 4 e-Government(II) 5 Local Disaster/Emergency Communications(II) 6 e- Health(II) 7 e-Libraries (II) 8 **Alberta SuperNet Overall Content and Services(II)**	1 Online banking, investment and financial services(I) 2 Sports related(I) 3 Travel and Tourism(I) 4 News and information(I) 5 Portal, directory and search(I) 6 **Current Internet Overall Content and Services(I)**	1 Adults only site(I) 2 Online Adult Oriented and Gambling sites(II)
Low Social Inertia	1 e-Entertainment(II)	1 e-Mail, Instant Messages and Online Chat(II) 2 e-File Transfer (II) 3 e-Shopping, Online Transactions & Financial Services(II) 4 e-Business Opportunities (II) 5 e-Work (telecommuting)(II)	1 Online News and Information (e-News)(II)	

TABLE 3
Summary of propositions and expected direction of welfare values

	High Rewards, High Cost	*High Rewards, Low Cost*	*Low Rewards, High Cost*	*Low Rewards, Low Cost*
High Social Inertia	**Proposition I**	**Proposition III**	**Proposition V**	**Proposition VII**
	Rural < Urban	Rural >=Urban	Rural < Urban	Rural < Urban
	(I : 1)*	(I : 2 and II: 2)	(I : 3, 3a)	(I : 4 and II: 5)
	Proposition II	**Proposition IV**	**Proposition VI**	**Proposition VIII**
Low Social Inertia	Rural <= Urban	Rural >Urban	Rural <= Urban	Rural <= Urban
	(II : 1)	(II : 3)	(II : 4)	

* *I and II denotes study 1 and study II, and 1,2,3,4,5 denotes the proposition number*

TABLE 4

MNL Model Parameters Estimates for Combined data (Study I)

	High Speed		*Dial up*		*Other*	
	Coeff.	*P-value*	*Coeff.*	*P-value*	*Coeff.*	*P-value*
Price	-0.04	.00				
Alt Sp Constant		.00	1.26	.00	0.61	.24
Age	-0.40	.00	-0.21	.00	-0.38	.00
Community	0.26	.05	0.33	.02	-0.05	.79
Sex	-0.61	.00	-0.22	.05	0.15	.32
Income	0.11	.00	0.03	.34	-0.03	.49
Education	0.14	.00	0.06	.08	0.11	.02
Canadian Portal	0.42	.01	0.27	.07	0.05	.81
Non Canadian Portal	0.12	.40	0.15	.32	-0.14	.47
Canadian News	0.64	.00	0.47	.00	0.47	.02
Non Canadian News	0.47	.00	0.20	.17	0.22	.24
Canadian Entertainment	-0.12	.40	-0.25	.09	-0.15	.43
Non Canadian Entertainment	0.20	.17	0.10	.52	-0.02	.92
Canadian shopping	0.29	.04	0.26	.07	0.08	.68
Non Canadian Shopping	0.17	.24	0.10	.51	0.12	.52
Sports	-0.19	.12	-0.18	.14	-0.08	.64
Education	0.11	.40	0.06	.61	0.11	.49
Government	0.11	.35	-0.01	.94	0.09	.56
Finance	0.45	.00	0.16	.18	-0.03	.85
Travel	0.30	.01	0.18	.12	0.09	.55
Adult	-0.89	.00	-0.78	.00	-1.02	.00

Discrete choice (multinomial logit) model
Maximum Likelihood Estimates
Number of observations 3138
Log likelihood function -3736.555

R2=1-LogL/LogL*	Log-L fncn	R-sqrd	RsqAdj
No coefficients	-4350.1917	.14106	.13546
Constants only	-3983.7872	.06206	.05594

TABLE 5

Welfare Values of Internet Content(Study I)

Content	*Combined*		*Urban*		*Rural*		
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	
Portal	13.87	(7.12)	23.41	(9.32)	-5.97	(10.60)	*
News and Information	28.79	(7.28)	31.67	(9.50)	22.21	(10.30)	*
Entertainment and Games	.95	(6.66)	2.78	(8.54)	-4.4	(9.53)	*
Online Shopping	12.36	(6.40)	11.95	(8.56)	16.03	(9.41)	*
Sports	-5.25	(3.34)	-5.83	(4.44)	-2.99	(4.97)	*
Education & Career	2.83	(3.38)	6.22	(4.47)	-7.00	(4.92)	*
Government	2.66	(3.29)	2.56	(4.16)	2.27	(4.90)	
Banking & Financial	10.96	(3.44)	13.33	(4.56)	7.33	(4.79)	*
Travel & Tourism	7.97	(3.39)	8.64	(4.40)	5.45	(4.68)	*
Adult	-24.85	(4.07)	-28.36	(5.61)	-16.90	(5.26)	*
Overall values	45.05	(15.19)	57.50	(20.08)	17.54	(21.72)	*

The combined sample has 3138 choices from 263 respondents, urban 2523 choices from 211 respondents and rural 615 choices from 52 respondents

* Urban-rural mean difference significant at the .05 level

TABLE 6
MNL Model Parameters Estimates for Combined data (Study II)

	High Speed		*Dial-up*		*Other*	
	Coeff.	*P-value*	*Coeff.*	*P-value*	*Coeff.*	*P-value*
Price	-.04	.00				
Alternative Specific Constant	.96	.02	.19	.66	-.46	.36
Age	-.35	.00	-.26	.00	-.45	.00
Sex	.03	.79	.12	.29	.31	.01
Income	.26	.00	.05	.11	.01	.67
Education	.19	.00	.21	.00	.23	.00
Community	-.23	.03	-.27	.01	.33	.02
e-Mail, Instant Messages and Online Chat(e-Mail)	.52	.00	.42	.00	-.21	.11
e-File Transfer (computer, graphic, audio, and video) (e-File)	.26	.01	-.13	.20	-.09	.44
Online News and Information (e-News)	.07	.49	.07	.49	-.02	.84
e-Health	.28	.01	.10	.37	.11	.36
e-Learning	.02	.86	.06	.60	.04	.73
e-Libraries	.14	.16	.10	.36	.16	.20
e-Government	.15	.15	.22	.04	.16	.20
Local Disaster/Emergency Communications (e-Disaster)	.07	.46	.07	.51	-.06	.62
e-Work (telecommuting)	.05	.61	.10	.33	-.14	.26
e-Business Opportunities (e-Business)	.12	.23	.08	.44	-.04	.75
e-Shopping, Online Transactions & Financial Services (e-Transaction)	.56	.00	.38	.00	.18	.14
Family Entertainment and Online Games (e-Entertainment)	.20	.04	.12	.25	-.04	.72
Online Adult-oriented and Gambling	-.21	.04	-.15	.16	-.34	.01
Scope (Own use only Vs. Others use)	-.23	.02	-.09	.38	-.30	.01

TABLE 7

Welfare Values of Supernet Content (Study II)

	Combined		*Urban*		*Rural*		
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	
e-Mail, Instant Messages and Online Chat(e-Mail)	11.33	(2.47)	10.70	(3.04)	14.46	(4.59)	*
e-File Transfer (computer, graphic, audio, and video) (e-File)	4.08	(2.37)	1.94	(2.88)	7.31	(4.35)	*
Online News and Information (e-News)	1.63	(2.34)	1.62	(2.84)	1.03	(4.34)	
e-Health	5.96	(2.50)	8.00	(3.00)	1.85	(4.44)	*
e-Learning	0.64	(2.40)	-0.42	(2.90)	3.39	(4.33)	*
e-Libraries	3.41	(2.37)	2.49	(2.86)	4.29	(4.35)	*
e-Government	4.02	(2.36)	2.44	(3.00)	6.38	(4.65)	*
Local Disaster/Emergency Communications (e-Disaster)	1.28	(2.33)	2.13	(2.85)	0.93	(4.29)	*
e-Work (telecommuting)	1.29	(2.39)	0.78	(2.88)	3.42	(4.38)	*
e-Business Opportunities (e-Business)	2.57	(2.36)	0.50	(2.78)	9.49	(4.54)	*
e-Shopping, Online Transactions & Financial Services (e-Transaction)	12.49	(2.47)	14.48	(3.10)	7.97	(4.38)	*
Family Entertainment and Online Games (e-Entertainment)	4.34	(2.35)	5.70	(2.82)	2.64	(4.30)	*
Online Adult-oriented and Gambling	-5.15	(2.42)	-6.71	(3.02)	-1.58	(4.44)	*
Scope (Own use only Vs. Others use)	-5.33	(2.44)	-6.90	(2.92)	-0.85	(4.32)	*
Overall	**34.45**	**(8.28)**	**28.61**	**(10.02)**	**53.7**	**(15.60)**	*

The combined sample has 3591 choices from 460 respondents, urban 2475 choices from 316 respondents and rural 1116 choices from 144 respondents

* Urban-rural mean difference significant at the .05 level

TABLE 8
Variables used in the Model (Study II- Digital divide descriptors)

Variable	Coding	Frequencies
Age	18 to 24 = 1	17
	25 to 34 = 2	64
	35 to 44 = 3	98
	45 to 54 = 4	131
	55 to 64 = 5	78
	65 or over = 6	73
Income	less than $20, 000 = 1	33
	$20,000 to $39,999 = 2	76
	$40,000 to $59,999 = 3	85
	$60,000 to $79,999 = 4	83
	$80,000 to $99,999 = 5	57
	$100,000 to $119,999 = 6	51
	$120,000 to $149,999 = 7	45
	$150,000 and more = 8	29

Variable	Coding	Frequencies
Education	Elementary School or Less =1	1
	Some High School = 2	31
	High School Graduate = 3	67
	Some Post Secondary Education = 4	71
	Community College or Technical Diploma = 5	140
	University Degree = 6	104
	Post Graduate Degree = 7	47
Location	Urban = 1	315
	Rural = 2	146
Incentive	25 cents = 1	106
	50 cent = 2	224
	1 dollar = 3	130
Sex	Male = 1	295
	Female = 2	166

Variable	Measure / Items
Distance from City	The shortest distance from the nearest city is measured using the latitude and longitude obtained from the postal code of each household. The two major cities we used are Calgary and Edmonton, in our analysis. Using Haversine' formula, **R** = earth's radius (mean radius = 6,371km), $\Delta lat = lat2 - lat1$, $\Delta long = long2 - long1$, $a = \sin^2(\Delta lat/2) + \cos(lat1).\cos(lat2).\sin^2(\Delta long/2)$, $c = 2.atan2(\sqrt{a}, \sqrt{(1-a)})$, Therefore distance **d = R.c**
Availability of communication technologies	i) Regular cable TV service. ii) Digital cable TV service. iii) Satellite delivered TV service iv) Desktop/Laptop Computer v) Handheld computer vi) Dial-up Modem for Internet access vii) DSL or similar dedicated phone line high speed internet viii) Cable modem for high speed internet access ix) Wireless or satellite delivered internet access x) Video/computer game system xi) Cellular phone xii) Digital cellular telephone xiii) Other

Variable	Measure / Items
Availability of alternative access	i) Access for private purposes at work during working hours. ii) Access for private purpose at work outside working hours iii) Access at school for a child iv) Access at college/university for an adult student v) Free access at a community library vi) Free access at a community organization facility vii) Paid access at internet café viii) Wireless access at an internet hotspot (wi-fi hotspot)
Distance from Community	This is the self-reported distance, of the home of the household from the nearest community center. The natural log of this value is used in the model
Rural affinity	i) Primary home was on a farm ii) Primary home was in a village iii) Primary home was in a small town iv) Owned a rural, mountain or lakeside cottage/cabin v) Owned a hobby farm or acreage vi) Owned your own recreation vehicle

TABLE 9

Multinomial Logit Model results for the Overall Population (Study II- Digital divide descriptors)

		Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
		Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
PRICE		-0.04	0.00	-0.04	0.00	-0.04	0.00	-0.04	0.00	-0.04	0.00	-0.04	0.00
Alt Sp Constant	High Speed	-0.52	0.28	0.69	0.07	1.28	0.00	0.84	0.06	1.45	0.00	-0.13	0.77
	Dial up	-0.92	0.05	-0.19	0.63	0.36	0.40	-0.11	0.82	0.18	0.69	-0.57	0.20
	Other	-0.26	0.63	0.24	0.59	0.41	0.40	0.48	0.36	0.73	0.16	-0.18	0.73
Age	High Speed	-0.21	0.00	-0.35	0.00	-0.36	0.00	-0.36	0.00	-0.37	0.00	-0.19	0.00
	Dial up	-0.20	0.00	-0.26	0.00	-0.27	0.00	-0.27	0.00	-0.27	0.00	-0.18	0.00
	Other	-0.36	0.00	-0.47	0.00	-0.47	0.00	-0.47	0.00	-0.48	0.00	-0.34	0.00
Sex	High Speed	-0.13	0.26	0.00	0.96	-0.01	0.95	-0.02	0.87	0.02	0.87	-0.15	0.18
	Dial up	0.00	0.99	0.11	0.30	0.10	0.34	0.10	0.38	0.11	0.31	-0.02	0.86
	Other	0.16	0.22	0.28	0.03	0.28	0.03	0.29	0.03	0.31	0.02	0.12	0.34
Income	High Speed	0.11	0.00	0.25	0.00	0.24	0.00	0.25	0.00	0.24	0.00	0.10	0.00
	Dial up	-0.06	0.04	0.03	0.24	0.03	0.30	0.04	0.18	0.02	0.50	-0.06	0.03
	Other	-0.07	0.06	0.01	0.65	0.01	0.68	0.01	0.67	0.01	0.87	-0.07	0.05
Education	High Speed	0.03	0.37	0.18	0.00	0.17	0.00	0.18	0.00	0.16	0.00	0.04	0.34
	Dial up	0.14	0.00	0.20	0.00	0.19	0.00	0.20	0.00	0.20	0.00	0.14	0.00
	Other	0.14	0.00	0.23	0.00	0.23	0.00	0.23	0.00	0.22	0.00	0.14	0.00
Incentive	High Speed	-0.28	0.00			-0.24	0.00	-0.24	0.00	-0.24	0.00	-0.28	0.00
	Dial up	-0.24	0.00			-0.23	0.00	-0.22	0.00	-0.22	0.00	-0.25	0.00
	Other	-0.06	0.47			-0.07	0.39	-0.07	0.42	-0.07	0.40	-0.08	0.38
Location	High Speed	0.69	0.00					0.30	0.01				
	Dial up	0.35	0.01					0.31	0.01				
	Other	0.29	0.09					-0.07	0.60				
Distance from City	High Speed	-0.13	0.00							-0.04	0.24		
	Dial up	-0.03	0.51							0.05	0.18		
	Other	-0.09	0.07							-0.07	0.07		
Distance from Community	High Speed	0.06	0.00							0.04	0.01		
	Dial up	0.07	0.00							0.06	0.00		
	Other	0.05	0.01							0.04	0.03		
Rural affinity	High Speed	-0.21	0.43									0.02	0.94
	Dial up	0.82	0.00									0.97	0.00
	Other	-0.02	0.94									-0.01	0.98
Availability of alternative access	High Speed	2.85	0.00									2.79	0.00
	Dial up	1.82	0.00									1.77	0.00
	Other	3.62	0.00									3.61	0.00
Availability of communication technologies	High Speed	5.43	0.00									5.52	0.00
	Dial up	2.89	0.00									2.98	0.00
	Other	0.71	0.21									0.76	0.18
Log Likelihood function		-4063.93		-4292.022		-4283.49		-4281.47		-4270.153		-4108.468	
R2=1-LogL/LogL*	Log-L fncn	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj
	-4704.11170	0.13106	0.12459	0.08591	0.08093	0.08760	0.08237	0.08942	0.08394	0.09022	0.08448	0.12662	0.12087
Number of obs.	3567												

TABLE 10

Multinomial Logit Model results for the Rural Population (Study II- Digital divide descriptors)

		Model 1		Model 2		Model 3		Model 4		Model 5	
		Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
PRICE		-0.04	0.00	-0.04	0.00	-0.04	0.00	-0.04	0.00	-0.04	0.00
Alt Sp Constant	High Speed	-0.23	0.83	0.84	0.25	1.51	0.06	3.45	0.00	-1.50	0.10
	Dial up	-0.29	0.78	-0.93	0.18	-0.43	0.58	1.55	0.12	-1.42	0.09
	Other	-0.21	0.88	-0.50	0.57	-0.04	0.97	1.57	0.21	-0.96	0.35
Age	High Speed	-0.16	0.05	-0.44	0.00	-0.46	0.00	-0.44	0.00	-0.16	0.04
	Dial up	-0.18	0.03	-0.29	0.00	-0.30	0.00	-0.30	0.00	-0.17	0.03
	Other	-0.19	0.04	-0.39	0.00	-0.40	0.00	-0.37	0.00	-0.20	0.04
Sex	High Speed	0.09	0.68	0.16	0.40	0.14	0.46	0.27	0.16	-0.03	0.88
	Dial up	0.09	0.68	0.31	0.10	0.30	0.12	0.42	0.03	0.01	0.97
	Other	0.16	0.54	0.50	0.03	0.49	0.04	0.59	0.01	0.06	0.81
Income	High Speed	0.13	0.03	0.41	0.00	0.40	0.00	0.40	0.00	0.12	0.04
	Dial up	0.03	0.60	0.22	0.00	0.21	0.00	0.20	0.00	0.05	0.47
	Other	-0.04	0.60	0.15	0.03	0.15	0.03	0.16	0.02	-0.09	0.30
Education	High Speed	0.01	0.84	0.07	0.30	0.06	0.32	0.08	0.19	0.00	0.98
	Dial up	0.16	0.02	0.18	0.00	0.18	0.00	0.21	0.00	0.14	0.04
	Other	-0.09	0.32	0.01	0.86	0.01	0.86	0.04	0.66	-0.07	0.40
Incentive	High Speed	-0.12	0.39			-0.26	0.05	-0.27	0.04	-0.14	0.33
	Dial up	-0.12	0.40			-0.20	0.13	-0.21	0.11	-0.13	0.33
	Other	-0.06	0.75			-0.18	0.26	-0.21	0.20	-0.05	0.77
Distance from City	High Speed	-0.31	0.04					-0.47	0.00		
	Dial up	-0.28	0.07					-0.46	0.00		
	Other	-0.16	0.40					-0.41	0.02		
Distance from Community	High Speed	0.03	0.39					0.00	0.90		
	Dial up	0.11	0.00					0.09	0.01		
	Other	-0.03	0.40					-0.05	0.14		
Rural affinity	High Speed	1.10	0.04							1.20	0.02
	Dial up	1.28	0.02							1.33	0.01
	Other	-0.09	0.90							0.19	0.77
Availability of alternative access	High Speed	3.91	0.00							4.15	0.00
	Dial up	4.80	0.00							4.87	0.00
	Other	6.94	0.00							7.19	0.00
Availability of communication technologies	High Speed	6.82	0.00							6.76	0.00
	Dial up	1.19	0.25							0.98	0.34
	Other	0.25	0.85							0.48	0.72
Log Likelihood function		-1212.71777		-1317.86		-1315.86		-1299.49		-1225.72	
R2=1-LogL/LogL*	Log-L fncn	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj
No Coefficients	-1468.41	0.17413	0.155	0.103	0.087	0.104	0.087	0.115	0.097	0.165	0.148
Number of obs.	1125										

TABLE 11
Multinomial Logit Model results for the Urban Population (Study II- Digital divide descriptors)

		Model 1		Model 2		Model 3		Model 4		Model 5	
		Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
PRICE		-0.041	0.000	-0.036	0.000	-0.04	0.00	-0.04	0.00	-0.04	0.00
Alt Sp Constant	High Speed	0.49	0.38	0.38	0.41	0.93	0.06	1.37	0.01	0.12	0.82
	Dial up	-0.15	0.79	-0.03	0.96	0.53	0.31	0.47	0.38	-0.10	0.86
	Other	0.02	0.98	0.25	0.64	0.28	0.63	0.53	0.38	-0.17	0.78
Age	High Speed	-0.21	0.00	-0.30	0.00	-0.30	0.00	-0.33	0.00	-0.19	0.00
	Dial up	-0.21	0.00	-0.25	0.00	-0.25	0.00	-0.25	0.00	-0.21	0.00
	Other	-0.42	0.00	-0.49	0.00	-0.49	0.00	-0.51	0.00	-0.40	0.00
Sex	High Speed	-0.13	0.35	-0.07	0.57	-0.08	0.52	-0.04	0.76	-0.17	0.23
	Dial up	-0.08	0.58	0.00	0.98	-0.01	0.93	0.00	0.99	-0.09	0.51
	Other	0.19	0.23	0.23	0.13	0.22	0.14	0.26	0.10	0.16	0.32
Income	High Speed	0.11	0.00	0.19	0.00	0.19	0.00	0.18	0.00	0.11	0.00
	Dial up	-0.11	0.00	-0.02	0.47	-0.03	0.41	-0.04	0.21	-0.10	0.01
	Other	-0.09	0.03	-0.04	0.35	-0.04	0.34	-0.05	0.20	-0.08	0.06
Education	High Speed	0.07	0.18	0.26	0.00	0.25	0.00	0.23	0.00	0.08	0.09
	Dial up	0.15	0.00	0.23	0.00	0.22	0.00	0.22	0.00	0.15	0.00
	Other	0.24	0.00	0.33	0.00	0.34	0.00	0.33	0.00	0.24	0.00
Incentive	High Speed	-0.30	0.00			-0.23	0.01	-0.23	0.01	-0.31	0.00
	Dial up	-0.27	0.00			-0.24	0.01	-0.23	0.01	-0.30	0.00
	Other	-0.03	0.80			-0.01	0.93	0.00	0.96	-0.04	0.68
Distance from City	High Speed	-0.10	0.02					-0.11	0.01		
	Dial up	0.01	0.82					0.02	0.72		
	Other	-0.06	0.25					-0.07	0.17		
Distance from Community	High Speed	0.08	0.00					0.10	0.00		
	Dial up	0.05	0.02					0.06	0.01		
	Other	0.10	0.00					0.10	0.00		
Rural affinity	High Speed	-0.84	0.01							-0.95	0.00
	Dial up	0.60	0.07							0.58	0.07
	Other	-0.21	0.59							-0.33	0.38
Availability of alternative access	High Speed	2.58	0.00							2.59	0.00
	Dial up	0.73	0.04							0.73	0.04
	Other	2.77	0.00							2.76	0.00
Availability of communication technologies	High Speed	4.68	0.00							4.85	0.00
	Dial up	3.49	0.00							3.66	0.00
	Other	0.59	0.37							0.88	0.17
Log Likelihood function		-2793.812		-2939.030		-2932.127		-2913.471		-2807.496	
R2=1-LogL/LogL*	Log-L fncn	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj	R-sqrd	RsqAdj
No Coefficients	-3229.229	0.135	0.126	0.090	0.083	0.092	0.084	0.098	0.089	0.131	0.122
Number of obs.	2442										

TABLE 12

Study 3: Hypothesis

Collectivism / *Context*	*High*	*Low*	*Difference*
Social Inertia	Social Identity made salient → Influenced by perceived communities resistance to change (social inertia) → Lowering of WTP	No change in Individual Identity → influenced by personal resistance to change (individual inertia) → Lowering of WTP	The difference in WTP is the difference due to the differences in communities' resistance to change and an individual's resistance to change. I propose that communities resistance to change has greater influence, and therefore **H1: $WTP_{S.I:High} < WTP_{S.I:Low}$**
Individual Inertia	Individual Identity made salient → Influenced by personal resistance to change (individual inertia) → Lowering of WTP	Private service used privately → Influenced by personal resistance to change (individual inertia) → Lowering of WTP	The difference in WTP is the difference in the effect of individuals resistance to change. Therefore there is no difference among these two groups **H2: $WTP_{I.I:High} = WTP_{I.I:Low}$**

TABLE 13

Pre Test 1: Evaluative COS (scale 1 to 7) - Conference attendees

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Normative	*Rural*	3	4.6923	.46790	.27014	3.5300	5.8546	4.15	5.00
	Semi rural	7	4.3736	.45166	.17071	3.9559	4.7913	3.54	4.77
	Urban	3	4.1026	.46367	.26770	2.9507	5.2544	3.62	4.54
	Total	13	4.3846	.46685	.12948	4.1025	4.6667	3.54	5.00
Evaluative	*Rural*	3	5.1795	.65422	.37772	3.5543	6.8047	4.69	5.92
	Semi rural	7	4.7582	.62085	.23466	4.1840	5.3324	3.69	5.69
	Urban	3	4.4615	.26647	.15385	3.7996	5.1235	4.31	4.77
	Total	13	4.7870	.58427	.16205	4.4339	5.1401	3.69	5.92

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Normative	*Between Groups*	.524	2	.262	1.251	.327
	Within Groups	2.092	10	.209		
	Total	2.615	12			
Evaluative	*Between Groups*	.786	2	.393	1.187	.345
	Within Groups	3.311	10	.331		
	Total	4.096	12			

TABLE 14

Pre Test 1: Evaluative COS (scale 1 to 7) - Student Subjects

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Normative	*Urban*	59	4.2868	.48647	.06333	4.1601	4.4136	2.92	5.23
	Rural	20	3.9769	.37194	.08317	3.8029	4.1510	3.38	4.85
	Total	79	4.2084	.47756	.05373	4.1014	4.3153	2.92	5.23
Evaluative	*Urban*	59	4.7014	.42231	.05498	4.5914	4.8115	4.00	5.85
	Rural	20	4.6385	.38429	.08593	4.4586	4.8183	4.08	5.46
	Total	79	4.6855	.41152	.04630	4.5933	4.7777	4.00	5.85

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Normative	*Between Groups*	1.435	1	1.435	6.754	.011
	Within Groups	16.354	77	.212		
	Total	17.789	78			
Evaluative	*Between Groups*	.059	1	.059	.347	.558
	Within Groups	13.150	77	.171		
	Total	13.209	78			

TABLE 15

Pretest 2: Group, Ideocentric and Allocentric Thoughts

	Community Prime(N=16)		*Individual Prime(N=14)*	
	Mean	*Std. Deviation*		*Std. Deviation*
Independent Thoughts				
Overall	47.56%	28	52.39%	25
First 10	39.93%	33	48.40%	32
Second 20	55.35%	31	56.35%	23
Group Thoughts				
Overall	31.60%	26	26.44%	14
First 10	32.15%	26	26.60%	22
Second 20	30.82%	31	27.06%	20
Allocentric Thoughts				
Overall	20.84%	15	21.18%	21
First 10	27.92%	22	25.00%	31
Second 20	13.84%	15	16.59%	16

TABLE 16

Pre test 2 Mean Scores for e-services

Service	*Social Good (1)- Private Good (6)*	*Service*	*Public Use (1)- Private Use (6)*
Disaster	**1.39**	***Disaster_Use***	**2.61**
Government	1.90	***Networking_Use***	**3.10**
Libraries	2.29	*Mail_use*	3.19
****Health***	**2.42**	*Government_Use*	3.29
News	2.52	*News_Use*	3.32
Learning	2.61	*Portal_Use*	3.32
Portal	2.84	*Auction_Use*	3.39
Mail	3.58	*Libraries_Use*	3.45
File	3.58	*Travel_Use*	3.48
Work	3.61	*Learning_Use*	3.52
Auction	3.71	*Work_Use*	3.68
****Networking***	**3.77**	*Entertainment_Use*	3.68
Business	3.84	*File_Use*	3.74
Travel	3.90	*Business_Use*	4.00
Entertainment	4.19	*Games_Use*	4.13
Financial	4.23	****Health_Use***	**4.16**
*****Shopping***	**4.39**	*Financial_Use*	4.23
Games	4.42	*****Shopping_Use***	**4.29**
Adult	4.55	*Gambling_Use*	4.55
Gambling	4.61	*Adult_Use*	4.90

The services in bold are selected for use in experiment 1 and 2

TABLE 17

Experiment 1 Levene's Test of Equality of Error Variances

Raw Data

	F	df1	df2	Sig.
E_Shopping_WTP	2.597	1	65	.112
Networking_WTP	9.848	1	65	.003
E_Health_WTP	5.481	1	65	.022
E_Disaster_WTP	.321	1	65	.573

SQRT (WTP) transformed data

	F	df1	df2	Sig.
SQR_SHOPPING	3.134	1	65	.081
SQR_NETWORKIN	6.894	1	65	.011
SQR_HEALTH	1.125	1	65	.293
SQR_DISASTER	1.149	1	65	.288

LN (WTP+1) transformed data

	F	df1	df2	Sig.
LNSHOPPINGc	3.079	1	65	.084
LNNETWORKINGc	5.888	1	65	.018
LNHEALTHc	.501	1	65	.482
LNDISASTERc	1.314	1	65	.256

TABLE 18

Experiment 1 Box's Test of Equality of Covariance Matrices

	Raw Data	SQRT(WTP)	LN(WTP)
Box's M	36.75	18.40	15.70
F	3.43	1.72	1.47
df1	10.00	10.00	10.00
df2	20156.05	20156.05	20156.05
Sig.	0.00	0.07	0.15

TABLE 19

Experiment 1:Test of within subject contrast for type of service

Measure: Type_of_Service

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Good	93.64	1.00	93.64	50.93	0.00	0.45
Good * D1_Inertia	0.55	1.00	0.55	0.30	0.59	0.01
Good * COLL_CENTERED	9.28	1.00	9.28	5.05	0.03	0.07
Good * D1_Inertia_X_COLL_CENTERED	9.97	1.00	9.97	5.42	0.02	0.08
Error(Service)	115.85	63.00	1.84			
Usage	25.29	1.00	25.29	26.39	0.00	0.30
Usage * D1_Inertia	1.35	1.00	1.35	1.41	0.24	0.02
Usage * COLL_CENTERED	1.61	1.00	1.61	1.68	0.20	0.03
Usage * D1_Inertia_X_COLL_CENTERED	0.00	1.00	0.00	0.00	0.95	0.00
Error(Usage)	60.38	63.00	0.96			
Good * Usage	0.27	1.00	0.27	0.28	0.60	0.00
Good * Usage * D1_Inertia	7.26	1.00	7.26	7.61	0.01	0.11
Good * Usage * COLL_CENTERED	3.22	1.00	3.22	3.38	0.07	0.05
Good * Usage * D1_Inertia_X_COLL_CENTERED	1.88	1.00	1.88	1.97	0.17	0.03
Error(Service*Usage)	60.14	63.00	0.96			

a Computed using alpha = .05

TABLE 20

Experiment 1:Parameter estimates with individual inertia the comparison group

Dependent Variable	Parameter	B	Std. Error	t	Sig.	Partial Eta Squared
SQR_SHOPPING	Intercept	1.03	0.21	4.77	0.00	0.27
	[D1_Inertia=.00]	0.07	0.31	0.24	0.81	0.00
	COLL_CENTERED	0.43	0.20	2.18	0.03	0.07
	D1_Inertia_X_COLL_CENTERED	-0.19	0.27	-0.72	0.48	0.01
SQR_NETWORKIN	Intercept	0.53	0.15	3.53	0.00	0.16
	[D1_Inertia=.00]	-0.30	0.22	-1.39	0.17	0.03
	COLL_CENTERED	-0.05	0.14	-0.38	0.71	0.00
	D1_Inertia_X_COLL_CENTERED	0.11	0.19	0.60	0.55	0.01
SQR_HEALTH	Intercept	2.38	0.27	8.69	0.00	0.55
	[D1_Inertia=.00]	-0.40	0.39	-1.03	0.31	0.02
	COLL_CENTERED	0.63	0.25	2.49	0.02	0.09
	D1_Inertia_X_COLL_CENTERED	-0.58	0.34	-1.68	0.10	0.04
SQR_DISASTER	Intercept	1.36	0.24	5.76	0.00	0.34
	[D1_Inertia=.00]	0.54	0.34	1.60	0.11	0.04
	COLL_CENTERED	0.72	0.22	3.27	0.00	0.15
	D1_Inertia_X_COLL_CENTERED	-0.86	0.30	-2.90	0.01	0.12

Computed using alpha = .05

D1: Social Inertia 0 and Individual Inertia 1

TABLE 21

Experiment 1:Parameter estimates with social inertia the comparison group

Dependent Variable	Parameter	B	Std. Error	t	Sig.	Partial Eta Squared
SQR_SHOPPING	Intercept	1.099	0.218	5.041	0.000	0.287
	COLL_CENTERED	0.241	0.182	1.324	0.190	0.027
	[D2_Inertia=.00]	-0.074	0.306	-0.241	0.810	0.001
	D2_Inertia_X_COLL_CENTERED	0.194	0.270	0.717	0.476	0.008
SQR_NETWORKIN	Intercept	0.234	0.154	1.520	0.134	0.035
	COLL_CENTERED	0.061	0.128	0.478	0.634	0.004
	[D2_Inertia=.00]	0.301	0.216	1.391	0.169	0.030
	D2_Inertia_X_COLL_CENTERED	-0.115	0.191	-0.602	0.549	0.006
SQR_HEALTH	Intercept	1.980	0.278	7.112	0.000	0.445
	COLL_CENTERED	0.055	0.232	0.237	0.813	0.001
	[D2_Inertia=.00]	0.403	0.391	1.033	0.306	0.017
	D2_Inertia_X_COLL_CENTERED	0.579	0.345	1.679	0.098	0.043
SQR_DISASTER	Intercept	1.900	0.240	7.923	0.000	0.499
	COLL_CENTERED	-0.144	0.200	-0.718	0.475	0.008
	[D2_Inertia=.00]	-0.539	0.337	-1.602	0.114	0.039
	D2_Inertia_X_COLL_CENTERED	0.862	0.297	2.902	0.005	0.118

Computed using alpha = .05

D1: Social Inertia 1 and Individual Inertia 0

TABLE 22

Experiment 2 Multiple Regression Dummy codes used

Group / Dummy Codes	**D1**	**D2**	**D3**	**`D4**	**D5**	**D6**
Group 1: Social Salience	1	0	0	0	0	1
Group 2: Social Inertia	0	1	0	1	0	0
Group 3: Control	0	0	1	0	1	0

TABLE 23

Experiment 2 Levene's Test of Equality of Error Variances

Raw Data				
	F	df1	df2	Sig.
EShopping_WTP	2.35	2.00	139.00	0.10
ENetworking_WTP	0.81	2.00	139.00	0.45
EHealth_WTP	0.48	2.00	139.00	0.62
EDisaster_WTP	0.35	2.00	139.00	0.70

SQRT Transformed Data				
	F	df1	df2	Sig.
SQRT_Shopping	2.40	2.00	139.00	0.09
SQRT_Networking	1.59	2.00	139.00	0.21
SQRT_Health	0.39	2.00	139.00	0.68
SQRT_Disaster	0.55	2.00	139.00	0.58

LN Transformed Data				
	F	df1	df2	Sig.
LNSHOPPINGc	2.64	2.00	139.00	0.07
LNNETWORKINGc	2.06	2.00	139.00	0.13
LNHEALTHc	0.76	2.00	139.00	0.47
LNDISASTERc	0.89	2.00	139.00	0.41

TABLE 24

Experiment 2 Box's Test of Equality of Covariance Matrices

	Raw Data	SQRT(WTP)	LN(WTP+1)
Box's M	38.26	17.58	15.71
F	1.83	0.84	0.75
df1	20.00	20.00	20.00
df2	63851.26	63851.26	63851.26
Sig.	0.01	0.66	0.77

TABLE 25

Experiment 2:Test of within subject contrast for type of service (control comparison group)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Good	146.55	1	146.55	77.71	0.00	0.36
Good * D1	5.95	1	5.95	3.15	0.08	0.02
Good * D2	0.11	1	0.11	0.06	0.81	0.00
Good * COLL_CENT	0.30	1	0.30	0.16	0.69	0.00
Good * D1_X_COLL_CENT	7.02	1	7.02	3.72	0.06	0.03
Good * D2_X_COLL_CENT	11.93	1	11.93	6.33	0.01	0.04
Error(Good)	256.46	136	1.89			
Usage	17.19	1	17.19	35.83	0.00	0.21
Usage * D1	0.17	1	0.17	0.36	0.55	0.00
Usage * D2	0.01	1	0.01	0.02	0.88	0.00
Usage * COLL_CENT	0.16	1	0.16	0.32	0.57	0.00
Usage * D1_X_COLL_CENT	0.29	1	0.29	0.60	0.44	0.00
Usage * D2_X_COLL_CENT	0.25	1	0.25	0.53	0.47	0.00
Error(Usage)	65.24	136	0.48			
Good* Usage	0.44	1	0.44	0.64	0.43	0.00
Good * Usage * D1	0.04	1	0.04	0.05	0.82	0.00
Good * Usage * D2	0.64	1	0.64	0.94	0.33	0.01
Good * Usage * COLL_CENT	0.78	1	0.78	1.15	0.29	0.01
Good * Usage * D1_X_COLL_CENT	0.34	1	0.34	0.50	0.48	0.00
Good * Usage * D2_X_COLL_CENT	0.55	1	0.55	0.81	0.37	0.01
Error(Good*Usage)	92.89	136	0.68			

TABLE 26

Experiment 2:Parameter estimates with control the comparison group

Dependent Variable	Parameter	B	Std. Error	t	Sig.	Partial Eta Squared
SQRT_Shopping	Intercept	1.34	0.36	3.70	0.00	0.09
	[D1=.00]	0.04	0.29	0.15	0.88	0.00
	[D2=.00]	-0.26	0.31	-0.85	0.40	0.01
	COLL_CENT	0.23	0.18	1.34	0.18	0.01
	D1_X_COLL_CENT	0.00	0.22	0.02	0.98	0.00
	D2_X_COLL_CENT	-0.32	0.25	-1.31	0.19	0.01
SQRT_Networking	Intercept	0.84	0.32	2.66	0.01	0.05
	[D1=.00]	0.17	0.26	0.67	0.51	0.00
	[D2=.00]	-0.11	0.27	-0.39	0.69	0.00
	COLL_CENT	0.07	0.15	0.48	0.63	0.00
	D1_X_COLL_CENT	0.19	0.20	0.94	0.35	0.01
	D2_X_COLL_CENT	-0.10	0.22	-0.47	0.64	0.00
SQRT_Health	Intercept	2.74	0.32	8.68	0.00	0.36
	[D1=.00]	-0.43	0.26	-1.67	0.10	0.02
	[D2=.00]	-0.01	0.27	-0.04	0.97	0.00
	COLL_CENT	0.05	0.15	0.35	0.73	0.00
	D1_X_COLL_CENT	0.53	0.20	2.67	0.01	0.05
	D2_X_COLL_CENT	0.42	0.22	1.94	0.05	0.03
SQRT_Disaster	Intercept	2.33	0.31	7.48	0.00	0.29
	[D1=.00]	-0.38	0.25	-1.51	0.13	0.02
	[D2=.00]	-0.21	0.27	-0.79	0.43	0.00
	COLL_CENT	0.12	0.15	0.76	0.45	0.00
	D1_X_COLL_CENT	0.52	0.19	2.67	0.01	0.05
	D2_X_COLL_CENT	0.38	0.21	1.77	0.08	0.02

TABLE 27

Experiment 2:Test of within subject contrast for type of service (social salience comparison group)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Good	78.04	1	78.04	41.38	0.00	0.23
Good * D3	5.95	1	5.95	3.15	0.08	0.02
Good * D4	8.33	1	8.33	4.42	0.04	0.03
Good * COLL_CENT	12.68	1	12.68	6.73	0.01	0.05
Good * D3_X_COLL_CENT	7.02	1	7.02	3.72	0.06	0.03
Good * D4_X_COLL_CENT	1.34	1	1.34	0.71	0.40	0.01
Error(Good)	256.46	136	1.89			
Usage	11.75	1	11.75	24.49	0.00	0.15
Usage * D3	0.17	1	0.17	0.36	0.55	0.00
Usage * D4	0.29	1	0.29	0.61	0.44	0.00
Usage * COLL_CENT	0.13	1	0.13	0.28	0.60	0.00
Usage * D3_X_COLL_CENT	0.29	1	0.29	0.60	0.44	0.00
Usage * D4_X_COLL_CENT	0.00	1	0.00	0.00	0.98	0.00
Error(Usage)	65.24	136	0.48			
Good * Usage	0.63	1	0.63	0.92	0.34	0.01
Good * Usage * D3	0.04	1	0.04	0.05	0.82	0.00
Good * Usage * D4	0.45	1	0.45	0.65	0.42	0.00
Good * Usage * COLL_CENT	0.03	1	0.03	0.05	0.83	0.00
Good * Usage * D3_X_COLL_CENT	0.34	1	0.34	0.50	0.48	0.00
Good * Usage * D4_X_COLL_CENT	0.06	1	0.06	0.08	0.77	0.00
Error(Good*Usage)	92.89	136	0.68			

TABLE 28

Experiment 2:Parameter estimates with social salience as the comparison group

Dependent Variable	Parameter	B	Std. Error	t	Sig.	Partial Eta Squared
SQRT_Shopping	Intercept	1.42	0.36	3.95	0.00	0.10
	[D3=.00]	-0.04	0.29	-0.15	0.88	0.00
	[D4=.00]	-0.30	0.28	-1.07	0.28	0.01
	COLL_CENT	0.24	0.14	1.71	0.09	0.02
	D3_X_COLL_CENT	0.00	0.22	-0.02	0.98	0.00
	D4_X_COLL_CENT	-0.33	0.22	-1.47	0.14	0.02
SQRT_Networking	Intercept	1.18	0.32	3.74	0.00	0.09
	[D3=.00]	-0.17	0.26	-0.67	0.51	0.00
	[D4=.00]	-0.28	0.25	-1.12	0.26	0.01
	COLL_CENT	0.26	0.12	2.11	0.04	0.03
	D3_X_COLL_CENT	-0.19	0.20	-0.94	0.35	0.01
	D4_X_COLL_CENT	-0.29	0.20	-1.47	0.14	0.02
SQRT_Health	Intercept	1.88	0.32	5.96	0.00	0.21
	[D3=.00]	0.43	0.26	1.67	0.10	0.02
	[D4=.00]	0.42	0.25	1.69	0.09	0.02
	COLL_CENT	0.58	0.12	4.73	0.00	0.14
	D3_X_COLL_CENT	-0.53	0.20	-2.67	0.01	0.05
	D4_X_COLL_CENT	-0.10	0.20	-0.54	0.59	0.00
SQRT_Disaster	Intercept	1.57	0.31	5.03	0.00	0.16
	[D3=.00]	0.38	0.25	1.51	0.13	0.02
	[D4=.00]	0.17	0.24	0.71	0.48	0.00
	COLL_CENT	0.63	0.12	5.25	0.00	0.17
	D3_X_COLL_CENT	-0.52	0.19	-2.67	0.01	0.05
	D4_X_COLL_CENT	-0.14	0.19	-0.73	0.47	0.00

TABLE 29

Experiment 2:Test of within subject contrast for type of service (social inertia comparison group)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Good	144.43	1.00	144.43	76.59	0.00	0.36
Good * D5	0.11	1.00	0.11	0.06	0.81	0.00
Good * D6	8.33	1.00	8.33	4.42	0.04	0.03
Good * COLL_CENT	18.97	1.00	18.97	10.06	0.00	0.07
Good * D5_X_COLL_CENT	11.93	1.00	11.93	6.33	0.01	0.04
Good * D6_X_COLL_CENT	1.34	1.00	1.34	0.71	0.40	0.01
Error(Good)	256.46	136.00	1.89			
Usage	16.83	1.00	16.83	35.09	0.00	0.21
Usage * D5	0.01	1.00	0.01	0.02	0.88	0.00
Usage * D6	0.29	1.00	0.29	0.61	0.44	0.00
Usage * COLL_CENT	0.10	1.00	0.10	0.21	0.65	0.00
Usage * D5_X_COLL_CENT	0.25	1.00	0.25	0.53	0.47	0.00
Usage * D6_X_COLL_CENT	0.00	1.00	0.00	0.00	0.98	0.00
Error(Usage)	65.24	136.00	0.48			
Good * Usage	2.18	1.00	2.18	3.18	0.08	0.02
Good * Usage * D5	0.64	1.00	0.64	0.94	0.33	0.01
Good * Usage * D6	0.45	1.00	0.45	0.65	0.42	0.00
Good * Usage * COLL_CENT	0.03	1.00	0.03	0.04	0.84	0.00
Good * Usage * D5_X_COLL_CENT	0.55	1.00	0.55	0.81	0.37	0.01
Good * Usage * D6_X_COLL_CENT	0.06	1.00	0.06	0.08	0.77	0.00
Error(Good*Usage)	92.89	136.00	0.68			

TABLE 30

Experiment 2:Parameter estimates with social inertia as the comparison group

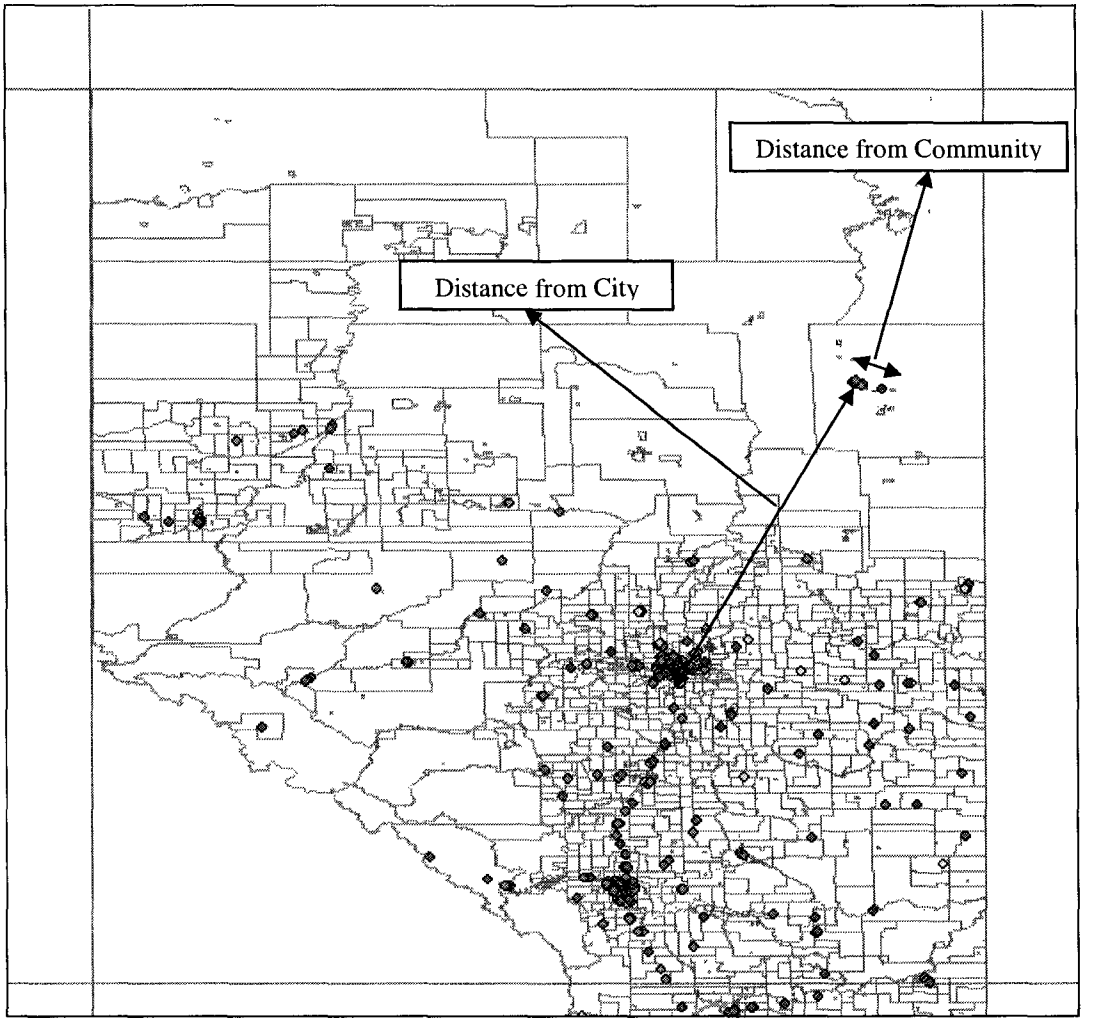
Dependent Variable	Parameter	B	Std. Error	t	Sig.	Partial Eta Squared
SQRT_Shopping	Intercept	0.81	0.36	2.26	0.03	0.04
	[D5=.00]	0.26	0.31	0.85	0.40	0.01
	[D6=.00]	0.30	0.28	1.07	0.28	0.01
	COLL_CENT	-0.09	0.17	-0.51	0.61	0.00
	D5_X_COLL_CENT	0.32	0.25	1.31	0.19	0.01
	D6_X_COLL_CENT	0.33	0.22	1.47	0.14	0.02
SQRT_Networking	Intercept	0.63	0.32	1.99	0.05	0.03
	[D5=.00]	0.11	0.27	0.39	0.69	0.00
	[D6=.00]	0.28	0.25	1.12	0.26	0.01
	COLL_CENT	-0.03	0.15	-0.19	0.85	0.00
	D5_X_COLL_CENT	0.10	0.22	0.47	0.64	0.00
	D6_X_COLL_CENT	0.29	0.20	1.47	0.14	0.02
SQRT_Health	Intercept	2.72	0.32	8.61	0.00	0.35
	[D5=.00]	0.01	0.27	0.04	0.97	0.00
	[D6=.00]	-0.42	0.25	-1.69	0.09	0.02
	COLL_CENT	0.48	0.15	3.12	0.00	0.07
	D5_X_COLL_CENT	-0.42	0.22	-1.94	0.05	0.03
	D6_X_COLL_CENT	0.10	0.20	0.54	0.59	0.00
SQRT_Disaster	Intercept	1.91	0.31	6.13	0.00	0.22
	[D5=.00]	0.21	0.27	0.79	0.43	0.00
	[D6=.00]	-0.17	0.24	-0.71	0.48	0.00
	COLL_CENT	0.49	0.15	3.29	0.00	0.07
	D5_X_COLL_CENT	-0.38	0.21	-1.77	0.08	0.02
	D6_X_COLL_CENT	0.14	0.19	0.73	0.47	0.00

TABLE 31

Experiment 2: Differences between Social Salience and Social Inertia regression lines at +1 SD

Dependent Variable	Parameter	B	Std. Error	t	Sig.	Partial Eta Squared
SQRT_Shopping	Intercept	1.38	0.26	5.41	0.00	0.17
	[D1=.00]	-0.05	0.34	-0.15	0.88	0.00
	COLL_1SD	0.10	0.12	0.82	0.41	0.00
	D1_X_COLL_1SD	0.14	0.18	0.76	0.45	0.00
SQRT_Networking	Intercept	1.07	0.22	4.79	0.00	0.14
	[D1=.00]	-0.08	0.29	-0.27	0.79	0.00
	COLL_1SD	0.03	0.10	0.31	0.75	0.00
	D1_X_COLL_1SD	0.23	0.16	1.41	0.16	0.01
SQRT_Health	Intercept	3.48	0.23	15.44	0.00	0.63
	[D1=.00]	-0.77	0.30	-2.59	0.01	0.05
	COLL_1SD	0.27	0.11	2.51	0.01	0.04
	D1_X_COLL_1SD	0.31	0.16	1.93	0.06	0.03
SQRT_Disaster	Intercept	2.94	0.22	13.23	0.00	0.56
	[D1=.00]	-0.61	0.29	-2.10	0.04	0.03
	COLL_1SD	0.33	0.10	3.12	0.00	0.07
	D1_X_COLL_1SD	0.31	0.16	1.93	0.06	0.03

FIGURE 1
The survey respondent locations and the distance measures used



Enlarged Image

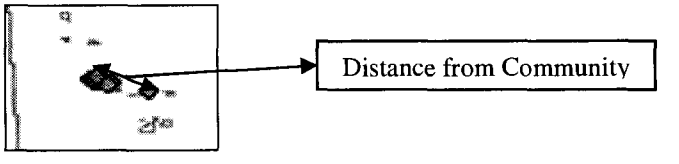


FIGURE 2:

Study 3: Brackets Method of Estimating Willingness to Pay

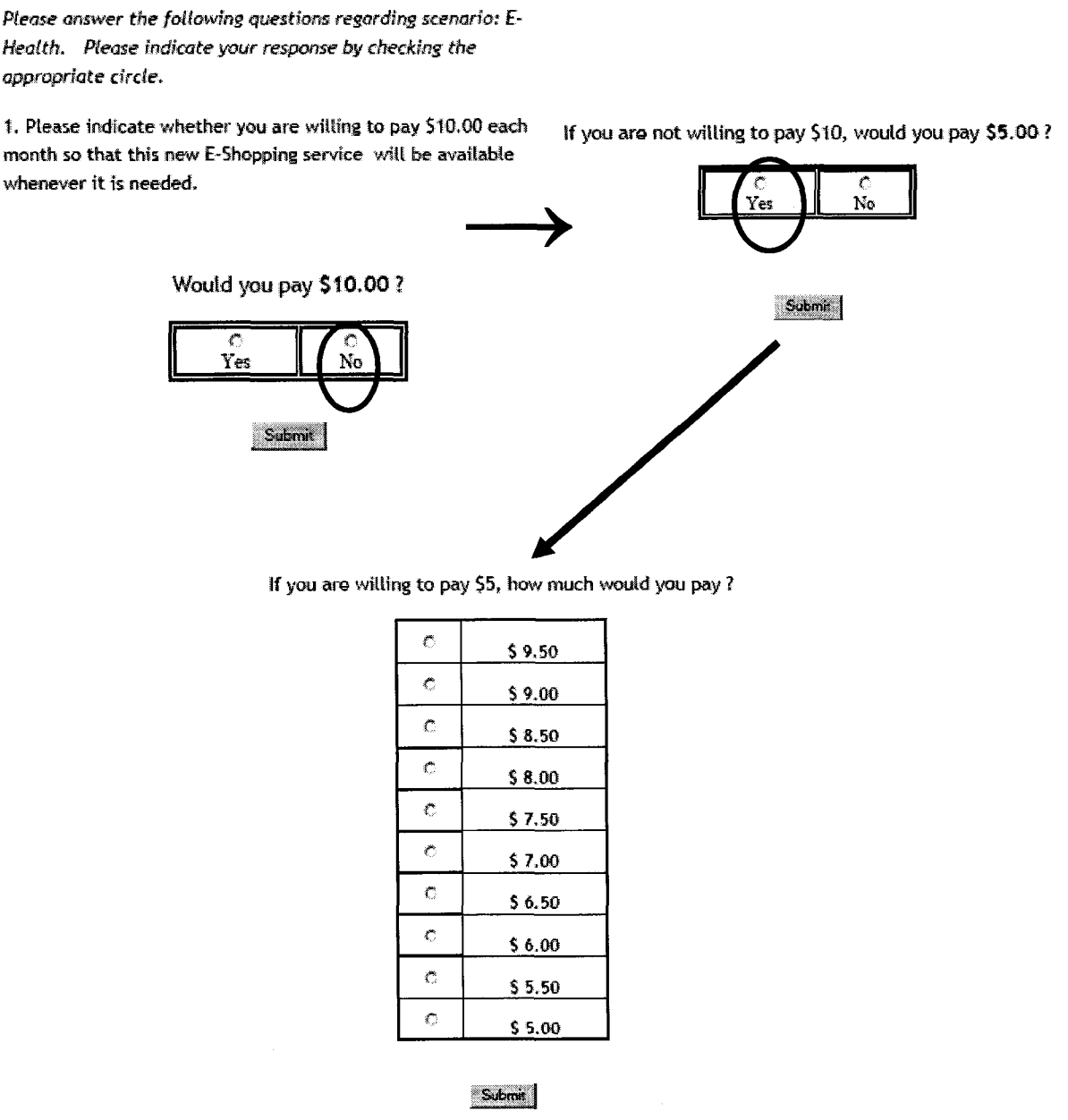
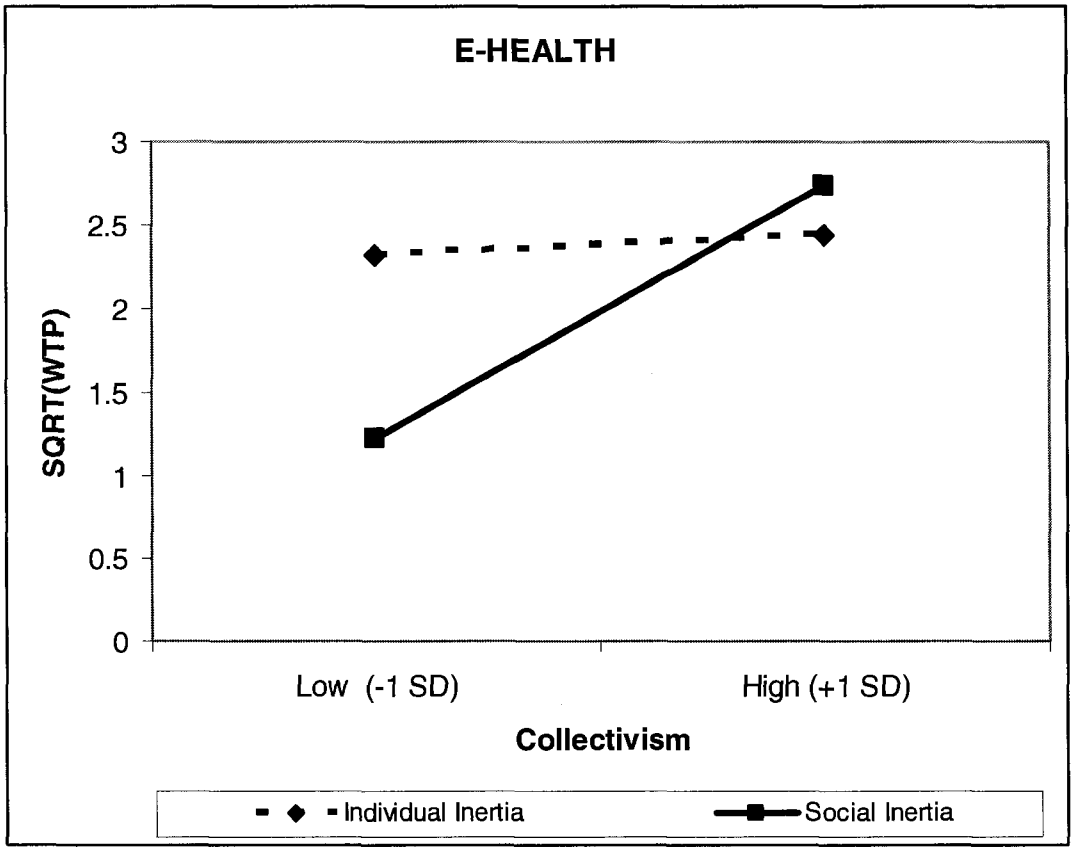


FIGURE 3:

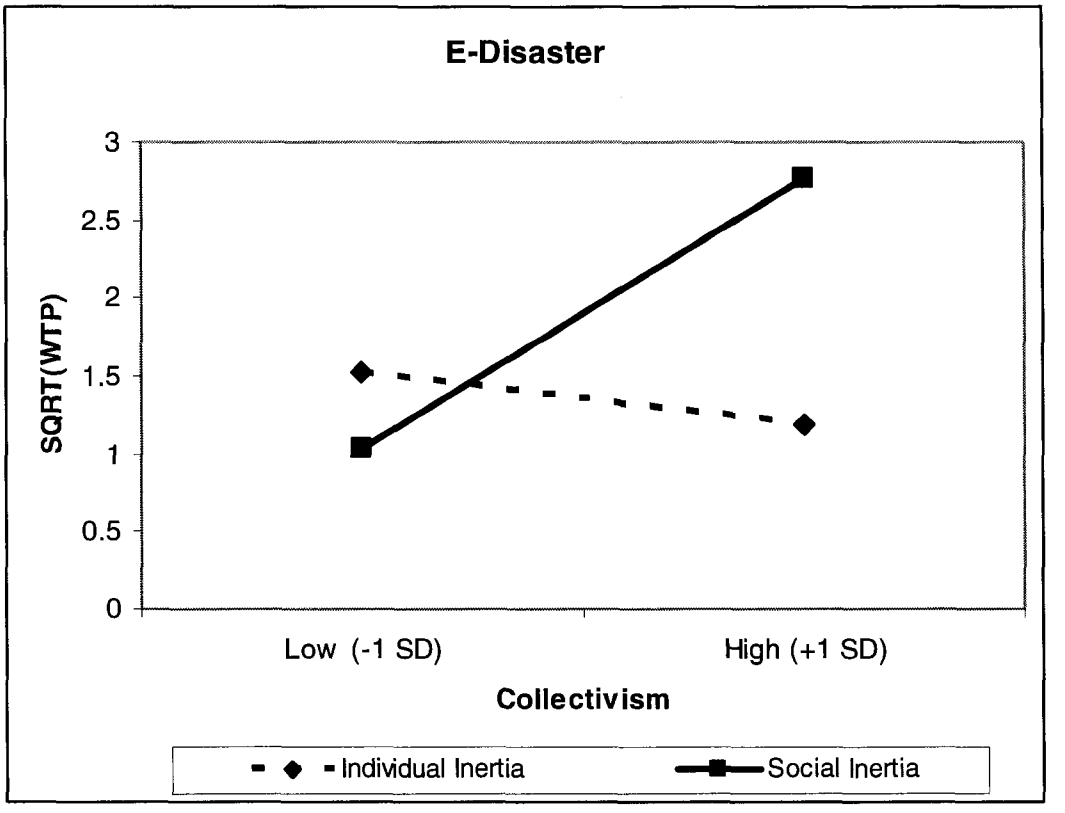
Experiment 1The simple slopes for E-Health



Collectivism slopes: b (p-value)
Social Inertia: 0.63(0.02)
Individual Inertia: 0.055(.30)

FIGURE 4

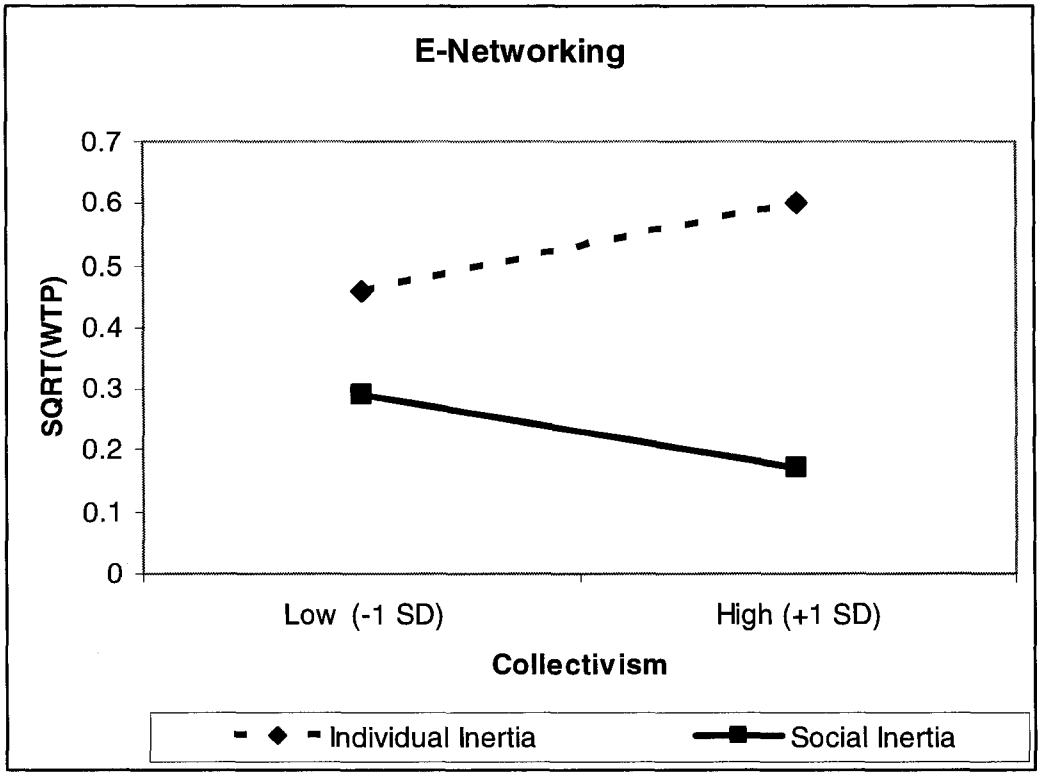
Experiment 1The simple slopes for E-Disaster



Collectivism slopes: b (p-value)
Social Inertia: 0.72(0.00)
Individual Inertia: -0.144(.48)

FIGURE 5

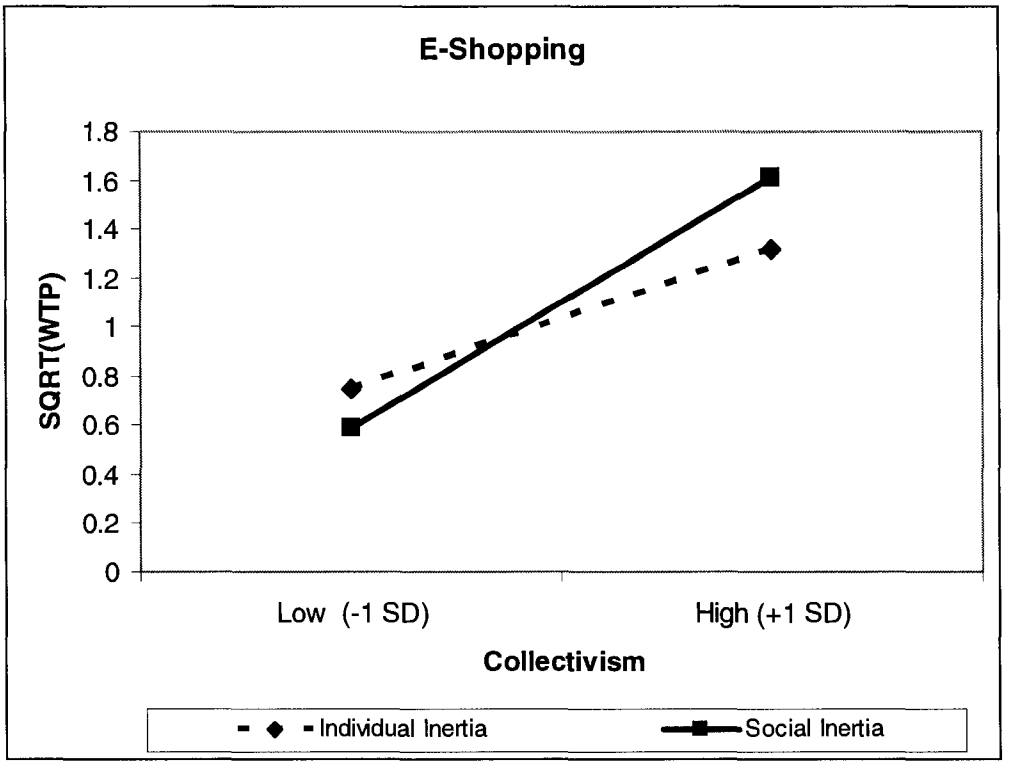
Experiment 1The simple slopes for E-Networking



Collectivism slopes: b (p-value)
Social Inertia: -0.05(0.71)
Individual Inertia: 0.061(.63)

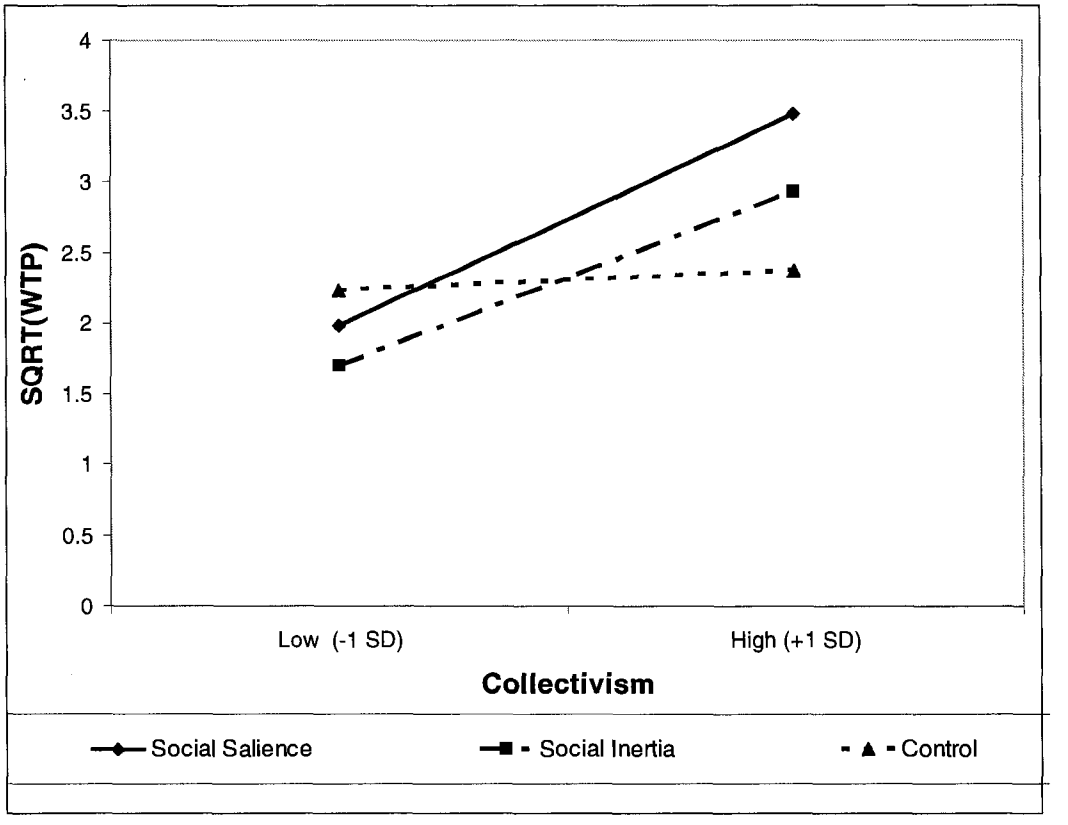
FIGURE 6

Experiment 1The simple slopes for E-Shopping



Collectivism slopes: b (p-value)
Social Inertia: 0.43(0.03)
Individual Inertia: 0.241(.19)

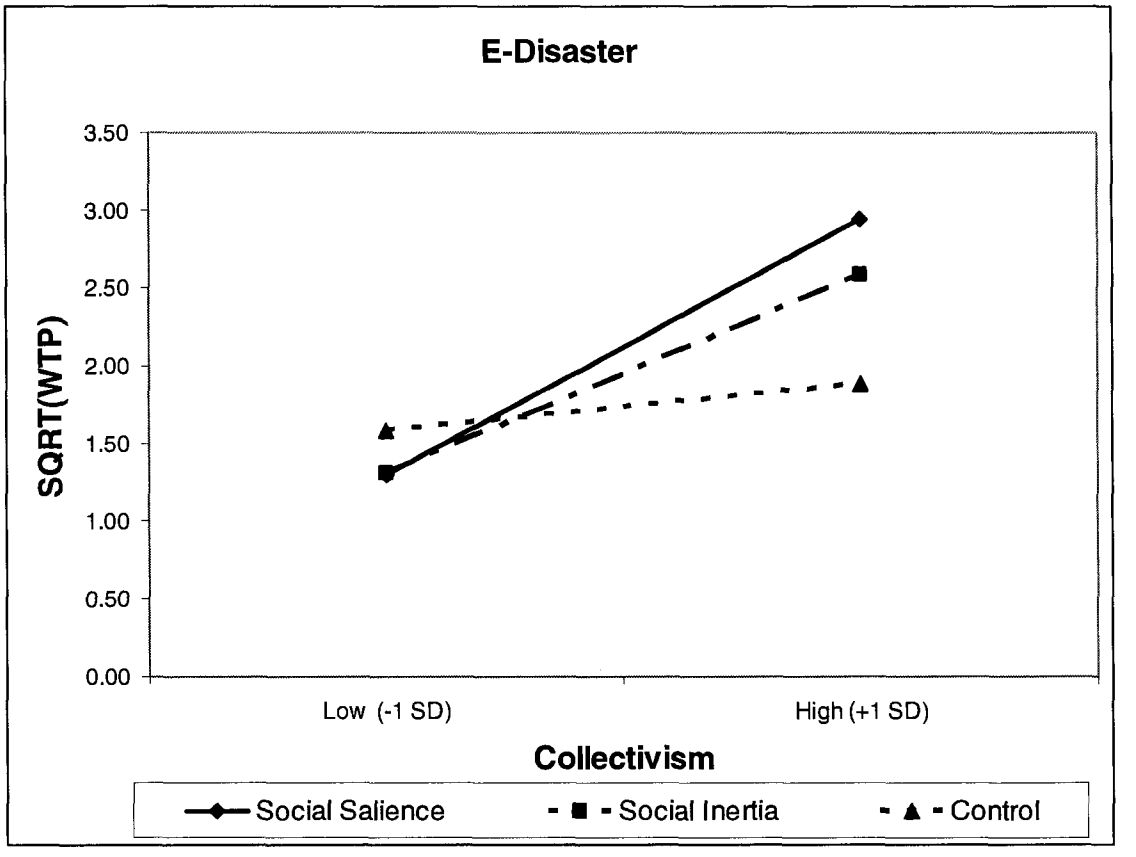
FIGURE 7
Experiment 2 the simple slopes for E-Health



Collectivism slopes: b (p-value)
Social Salience: *0.58(.00)*
Social Inertia: *0.48(.00)*
Control: *0.05(.73)*

Test of difference between Social Inertia and Social Salience at point + 1 SD
b_1 *(Dummy* D_1*):* *-0.77(.01)*

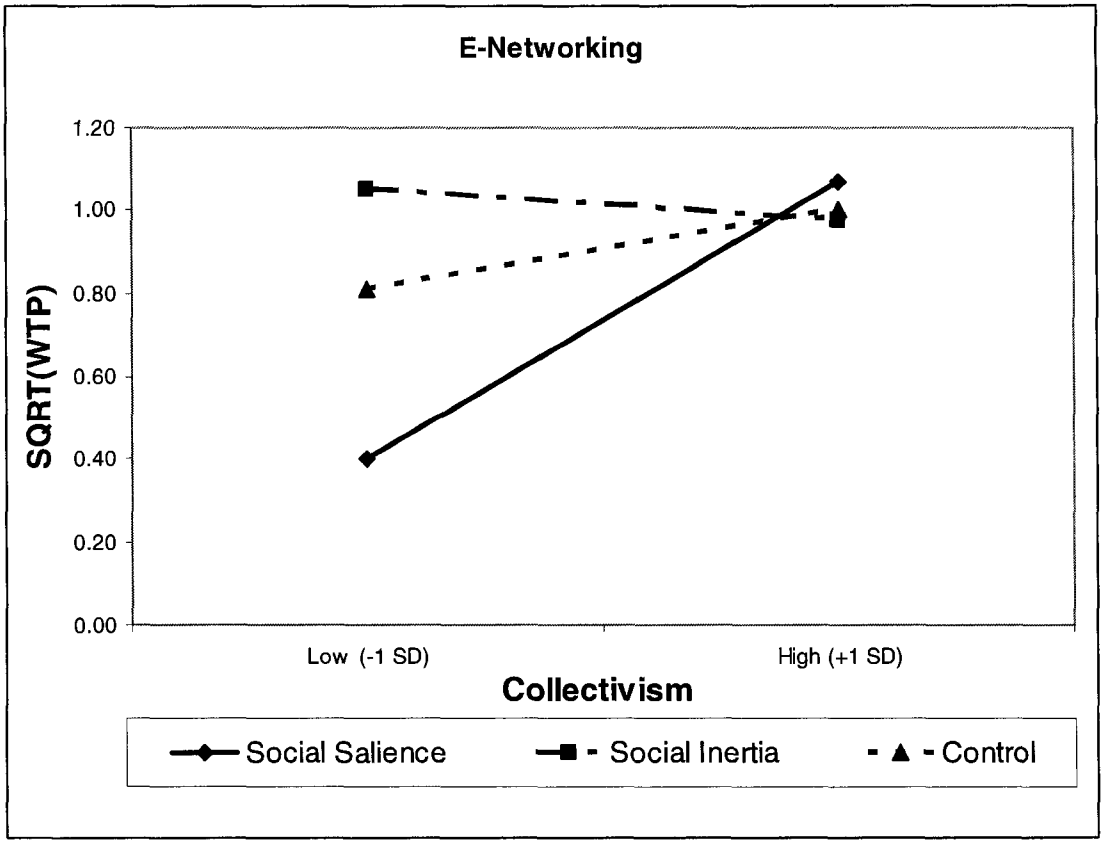
FIGURE 8
Experiment 2 the simple slopes for E-Disaster



Collectivism slopes: b (p-value)
Social Salience: *0.63(.00)*
Social Inertia: *0.49(.00)*
Control: *0.12(.45)*

Test of difference between Social Inertia and Social Salience at point + 1 SD
b_1 *(Dummy* D_1*):* *-0.61(.04)*

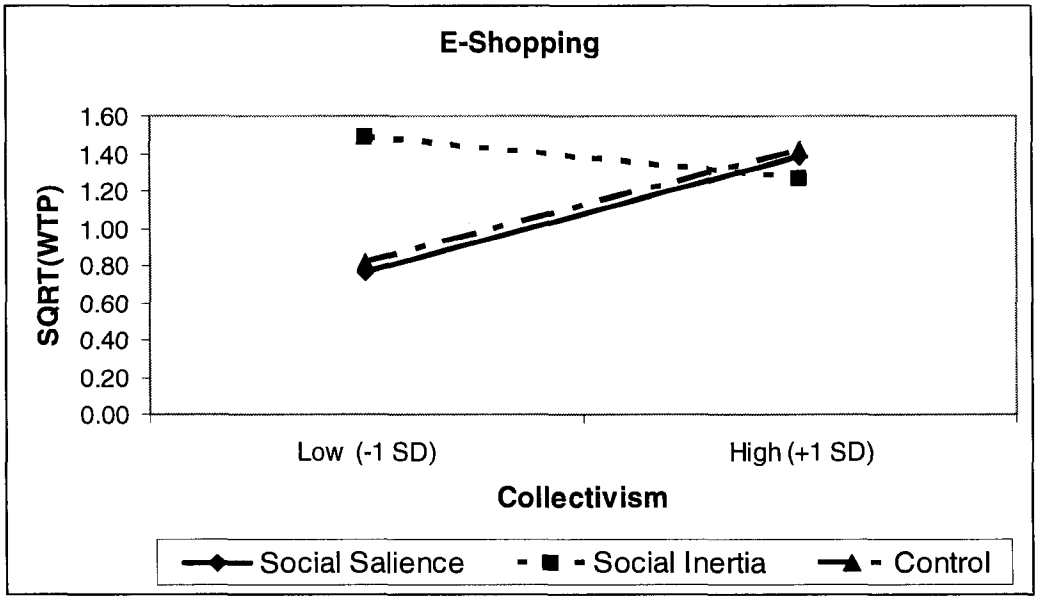
FIGURE 9
Experiment 2 the simple slopes for E-Networking



Collectivism slopes: b (p-value)
Social Salience: *0.26(.04)*
Social Inertia: *- 0.03(.85)*
Control: *0.07(.35)*

Test of difference between Social Inertia and Social Salience at point + 1 SD
b_1 *(Dummy* D_1*):* *-0.08(.79)*

FIGURE 10
Experiment 2 the simple slopes for E-Shopping



Collectivism slopes: b (p-value)
Social Salience: *0.24(.09)*
Social Inertia: *-0.09(.61)*
Control: *0.23(.18)*

Test of difference between Social Inertia and Social Salience at point + 1 SD
b_1 *(Dummy* D_1*):* *-0.05(.88)*

APPENDIX 1
Types of Internet Content and Services

Send/receive e-Mail, instant messages and online chat

Exchange E-mail with individuals or with groups using list serves and participate in chat using ICQ and instant messenger services (e.g., AOL Instant Messenger, MSN Messenger).

Transfer computer, graphic, audio, and video files

File-sharing applications, such as ftp programs for computer files, Napster for MP3s, and Morpheus and Kazaa for graphic, audio, and video files located on the Gnutella network.

Canadian portal, directory and search sites

Canadian oriented portal page websites, providing links to Canadian information on the Internet, such as Sympatico.ca, canoe.ca, and Canada.com, including directories of Canadian information, and Canadian specific search engines such as Google Canada (www.google.ca).

Non-Canadian portal, directory and search sites

US and other international portal page websites, providing links to worldwide sources of information on the Internet, including directories of information such as Yahoo! (yahoo.com), MSN(msn.com), and search engines such as Google (www.google.com).

Canadian news and information

Canadian news and information websites, whether associated with traditional news services, such as www.cbc.ca/newsworld and globeandmail.ca, or unique to the Internet, such as canadaonline.about.com

Non-Canadian news and information

US and other international news and information websites, whether associated with traditional news services, such as CNN (www.cnn.com), BBC (www.bbc.co.uk), and the New York Times (www.nyt.com), or unique to the Internet, such as About.com (www.about.com) or AOL Prop News.

Canadian online shopping services

Canadian online retailers, that target Canadian consumers and price their goods in Canadian dollars, whether Canadian owned or not, such as www.chapters.indigo.ca, www.futureshop.ca, www.sears.ca and www.canadiantire.ca. Included are Canadian auction websites, such as www.ebay.ca.

Non-Canadian online shopping services

These include online retailers and related sites, including both shopping and comparison sites, targeted at consumers in other countries, such as www.amazon.com, www.bloomingdales.com, www.thesmartshoppe.com and www.bizrate.com. Includes international auction sites, such as www.ebay.com and www. ubid.com.

Canadian entertainment and game sites

Canadian entertainment websites, offering access to on demand or live streaming Canadian content, such as at caneHDian.com, virtuecast.com or 'the Lofters' on U8TV, other Canadian entertainment content sites, such as jam.canoe.ca, and Canadian games websites, such as games.sympatico.ca and ca.games.yahoo.com.

Non-Canadian entertainment and game sites

International entertainment websites, offering on demand or live streaming content, such as netbroadcaster.com and realguide.real.com and international game websites, such as www.gamezone.com and www.ea.com (Electronic Arts).

Sports related sites

Canadian and international websites specializing in sports news and coverage, such as The Sports Network (www.tsn.ca), SportsNet (www.sportsnet.ca), or ESPN (espn.go.com), and websites for sports leagues, such as the NHL (www.nhl.com), NBA (www.nba.com), for particular teams, such as Montreal Canadiens (www.canadiens.com) or Manchester United (www.manutd.com) or for amateur sports

Education, training, career and job sites

Sites operated by universities, colleges and schools, career information sites such as Canada workinfonet and job search sites such as www.monster.com and www.workopolis.com

Government and public sector sites

Sites operated by the Federal (canada.gc.ca), provincial (e.g., www.gov.on.ca, www.gov.ab.ca) and local (e.g., www.city.toronto.on.ca, www.city.vancouver.bc.ca) governments and other public authority sites, such as for Health Boards (e.g., www.reginahealth.sk.ca, www.cha.ab.ca) etc.

Online banking, investment and financial services sites

Websites providing Internet banking, such as www.pcbanking.cibc.com and www.tdcanadatrust.com, financial information, such as gold.globeinvestor.com, or for investment and online stock trading, such as www.tdwaterhouse.ca or www.etrade.ca.

Travel and tourism sites

Canadian and international tourism and travel sites, including information services such as www.mapquest.com, travel organizations, such as www.aircanada.ca, and online travel agencies, such as Expedia.ca and Travelocity.com.

Adults' only sites

This includes websites providing sexually explicit graphic and video materials, such as www.sexaddicted.com and www.totaltramps.com.

APPENDIX 2

Glossary of Types of Internet Services and Content

e-Mail, Instant Messages and Online Chat (e-Mail)

Send/receive E-mail from individuals or groups using listserves, use of instant messenger services (e.g., AOL Instant Messenger, MSN Messenger) and participation in online chat using ICQ.

e-File Transfer (computer, graphic, audio, and video) (e-File)
Unpaid person to person sharing of files using file-sharing applications and person to person networks, such as eDonkey2K, FastTrack, and Gnutella, for transferring audio, video, game and computer program files, as well as older ftp programs for transferring computer files,

Online News and Information (e-News)
Free news and information websites, whether associated with traditional media, such as the cbc.ca and cnn.com, or unique to the Internet, such as canadaonline.about.ca and about.com and free directory yahoo.com, search google.com and other targeted sources of online information, such as for sports tsn.ca, or movies IMDB.com (The Internet Movie Database).

e-Health
Regional health authorities will share information quickly and efficiently with other regions. Health care practitioners will benefit from real-time records transfer and online access to specialists. Patients anywhere in the province will consult specialists without having to travel to a city. Specialists will be able to view patient data, such as an X-ray image, from anywhere at any time, giving immediate advice to emergency room doctors or family physicians.

e-Learning
Traditional courses will be taught to students in different schools, making options equally available regardless of school size. Teacher specialists and interactive video resources will be available directly to students in schools, no matter where they live. Online courses and modules will enable K-12 and adult students to customize their learning experience, working at their own pace from the comfort of their own home. Teachers and students can benefit from opportunities for online collaboration.

e-Libraries
Users can access school and other library services from home, searching for and renewing books and accessing electronic copies of periodicals and books as they become available. All Albertans will have equal network access to the high quality digital information resources available at specialized and urban libraries. Libraries will also become community access points to new broadband services.

e-Government

Provincial and municipal governments will deliver services and programs more effectively throughout the province. The high level of security will give residents and businesses online access to government services from anywhere in the province, whether renewing licenses, registering for local recreation or education programs, researching bylaws, communicating with departments, or paying parking tickets.

Local Disaster/Emergency Communications (e-Disaster)
Disaster and emergency workers can communicate when voice service infrastructure is destroyed or unavailable due to fires, floods or other disasters. Access to remote databases, web-based applications, and video conferencing communication with agency headquarters or other field command centers, can significantly improve the safety of responders and the effectiveness of the response.

e-Work (telecommuting)
Employees can work from home with access to all the information that would be available in a normal office. They can avoid commuting, and only visit their employer's office when required.

e-Business Opportunities (e-Business)
There will be exciting new business opportunities, as rural Alberta businesses will be able to expand their marketing, service and production horizons and compete directly with their big-city counterparts, benefiting from improved abilities to communicate efficiently with distant suppliers and clients.

e-Shopping, Online Transactions & Financial Services (e-Transaction)
Access online retailers, such as amazon.ca, sears.ca including auction websites, such as ebay.ca; online booking services, such as aircanada.ca and expedia.ca for travel and ticketmaster.ca for events, and paid content or downloading, such as Apple iTunes music store, as well as online banking, investment and financial brokers sites, such as rbc.com, tdwaterhouse.ca and etrade.ca.

Family Entertainment and Online Games (e-Entertainment)
Websites offering access to free on demand or live streaming content, such as miniclip.com or realguide.real.com; other entertainment content sites, such as jam.canoe.ca, and games websites, such as games.sympatico.ca and ca.games.yahoo.com, gamezone.com and ea.com (Electronic Arts).

Online Adult-oriented and Gambling
Websites providing sexually explicit materials, such as www.sexaddicted.com and totaltramps.com, personal ads and dating services, such as lavalife.ca, and online gambling sites, including casinos, such as omnicasino.com, and sports betting, such as betwwts.com

APPENDIX 3

Welfare Values of Internet Content by mode of access (Study I)

Content	*Combined*		*High Speed*		*Dial Up*		*Other*	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*
Portal	13.87	7.12	12.18	5.86	1.27	0.92	-0.08	0.27
News	28.79	7.28	23.42	5.58	1.83	0.90	0.34	0.26
Entertainment	0.95	6.65	1.80	5.77	-0.70	1.10	-0.14	0.39
Shopping	12.36	6.40	10.30	5.35	1.08	0.85	0.12	0.24
Sports	-5.25	3.34	-4.57	3.02	-0.75	0.62	-0.06	0.13
Education	2.83	3.38	2.50	2.98	0.21	0.49	0.07	0.12
Government	2.66	3.29	2.65	2.85	-0.05	0.49	0.59	0.12
Finance	10.96	3.44	10.15	2.96	0.53	0.45	-0.27	0.13
Travel	7.97	3.39	7.09	2.88	0.61	0.48	0.06	0.12
Adult	-24.85	4.07	-22.58	2.89	-4.07	1.57	-1.16	0.64
Overall values	**45.05**	**15.19**	**36.85**	**9.59**	**1.82**	**1.61**	**-0.20**	**0.62**

APPENDIX 4

Welfare Values of Internet Content by mode of access and location(rural/urban)

Content	Urban								Rural							
	Combined		High Speed		Dial Up		Other		Combined		High Speed		Dial Up		Other	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Portal	23.41	9.32	*19.05	7.34	*2.13	1.27	0.05	0.26	-5.97	10.60	*-5.17	9.78	* -0.75	1.58	-0.69	1.38
News	31.67	9.50	26.16	7.44	1.98	1.22	0.31	0.29	22.21	10.30	17.99	8.45	0.94	1.00	0.33	0.60
Entertainment	2.78	8.54	3.57	7.38	-0.87	1.53	-0.17	0.32	-4.40	9.53	-4.03	9.04	-0.39	1.24	-0.07	0.66
Shopping	11.95	8.56	9.97	7.00	1.18	1.17	0.04	0.25	16.03	9.41	13.41	8.03	0.60	0.89	0.32	0.59
Sports	-5.83	4.44	-4.98	3.94	-0.91	0.84	-0.05	0.15	-2.99	4.97	-2.64	4.52	-0.25	0.59	-0.09	0.39
Education	6.22	4.47	*5.74	3.78	0.29	0.65	0.06	0.13	-7.00	4.92	* -7.13	4.54	0.05	0.53	0.04	0.30
Government	2.56	4.16	2.80	3.63	-0.35	0.69	0.06	0.13	2.27	4.90	1.84	4.33	0.28	0.51	0.10	0.30
Finance	13.33	4.56	12.39	3.79	0.60	0.63	-0.02	0.13	7.33	4.79	6.70	4.17	0.40	0.52	-0.05	0.33
Travel	8.64	4.40	7.61	3.72	0.70	0.63	0.06	0.13	5.45	4.68	5.13	4.30	0.23	0.49	0.00	0.27
Adult	-28.36	5.61	* -25.59	5.11	-4.46	1.95	-1.18	0.79	-16.90	5.26	* -15.56	5.16	-2.61	2.24	-0.87	1.09
Overall values	**57.50**	**20.08**	***45.93**	**11.98**	**2.33**	**2.18**	**-0.20**	**0.73**	**17.54**	**21.72**	***13.49**	**17.78**	**0.55**	**1.72**	**-0.08**	**1.40**

APPENDIX 5

Scenarios Used in Experiment 1

E-Disaster

Scenario 1: Social inertia

Alberta government is proposing to improve the existing disaster management services in my community by making disaster relief services available on its broadband network. By using new technology and increasing regional cooperation, it is argued that e-disaster service plans would save lives in my community. E-disaster service can improve the preparedness of the community emergency response team and save human lives and critical infrastructure. Communication can be kept intact even if the infrastructure is destroyed enabling relief operations for the people in my community to remain unaffected.

However, my community is used to face-to-face personal discussion during a disaster and still believes that face-to-face personal discussion is the most effective way to clarify issues during a disaster. People in my community would prefer the continuation of the existing disaster management system.

Scenario 2: Individual inertia

Alberta government is proposing to improve the existing disaster management services to its citizens including me by making disaster relief services available on its broadband network. By using new technology and increasing regional cooperation, it is argued that e-disaster service plans would save individuals like me. E-disaster service can improve the preparedness of the emergency response team and save human lives and critical infrastructure. Communication can be kept intact even if the infrastructure is destroyed enabling relief operations for individuals like me to remain unaffected.

However, I believe people are used to face-to-face personal discussion during a disaster and still believe that face-to-face personal discussion is the most effective way to clarify issues during a disaster. I would prefer the continuation of the existing disaster management system.

E-Networking

Scenario 1: Social inertia

A new 3D social networking service is being offered to people in my community. It will provide a virtual world where the actual 3D image of a person (avatar) is

projected. People in my community can engage in activities such as going to a bar, attending a virtual shopping mall, or visiting a virtual club 'house' to converse with a friend avatar in real time. Through this service, our avatars can visit other avatars from other virtual worlds, such as 'second life,' and interact with them. This service encourages special interest groups within my community, such as Bikers, to interact through this service. Thus, it can serve their interests more effectively.

However, this type of 3D social networking service is unfamiliar to the community. In the past, we preferred to meet people face-to-face, but lately people in my community are being served by other social networking services which we have become used too and which effectively serve the community's interests. Some people in the community are particularly concerned about the safety of young users who may give out on-line too much information about themselves.

Scenario 2: Individual inertia

A new 3D social networking service is being offered to me. It will provide a virtual world where the actual 3D image of a person (avatar) is projected. I will be able to engage in activities such as going to a bar, attending a virtual shopping mall, or visiting a virtual club 'house' to converse with a friend avatar in real time. This service offers my avatar an opportunity to visit avatars from other virtual worlds, such as 'second life,' and interact with them. This service encourages special interest groups, such as Bikers, to interact through this service. Thus, it can serve their interests more effectively.

However, this type of 3D social networking service is unfamiliar to me. In the past, I preferred to meet people face-to-face, but lately I am being served by other social networking services which I have become used too and which effectively serve my interests. I am particularly concerned about the safety of young users who may give out on-line too much information about themselves.

E-Shopping

Scenario 1: Social inertia

A company is trying to encourage online buyers in my community to purchase a product by giving them an actual feel for using the product in question. A 3D image of the product can be projected using a mouse-like accessory that allows the customer to feel the texture of the product. The service also simulates its actual smell. In addition, the customer in my community can upload his/her own 3D image and interact with the product. Consequently, the customer in my community gets a sense of what s/he would experience when actually using the item.

However, this type of e-shopping service is unfamiliar to the people in my community. We are used to personalized, in-store shopping, especially when we need to apply our senses and/or use the product in order to evaluate it. , We would prefer continuing to shop for goods that require physical interaction prior to purchase by going to existing brick and mortar stores.

Scenario 2: Individual inertia

A company is trying to encourage online buyers like me to purchase a product by giving me an actual feel for using the product in question. A 3D image of the product can be projected using a mouse-like accessory that will allow me to feel the texture of the product. The service also simulates its actual smell. In addition, customers such as myself can upload one's own 3D image and interact with the product. Consequently, customers like myself in my community can get a sense of what we would experience when using the product.

However, this type of e-shopping service is unfamiliar to me. I am used to personalized, in-store shopping, especially when I need to apply my senses and/or use the product in order to evaluate it. I would prefer continuing to shop for goods that require physical interaction prior to purchase by going to existing brick and mortar stores.

APPENDIX 6

Scenarios Used in Experiment 2

E-Disaster

Scenario 1: Control

Alberta government is proposing to improve the existing disaster management services by making disaster relief services available on its broadband network. By using new technology and increasing regional cooperation, it is argued that e-disaster service plans could save lives. E-disaster service can improve the preparedness of the emergency response team and save human lives and critical infrastructure. Communication can be kept intact even if the infrastructure is destroyed enabling relief operations to remain unaffected.

Scenario 2: Social identity salient condition

Alberta government is proposing to improve the existing disaster management services in my community by making disaster relief services available on its broadband network. By using new technology and increasing regional cooperation, it is argued that e-disaster service plans could save lives in my community. E-disaster service can improve the preparedness of the community emergency response team and save human lives and critical infrastructure. Communication can be kept intact even if the infrastructure is destroyed enabling relief operations for the people in my community to remain unaffected.

Scenario 3: Social inertia and social identity salient

Alberta government is proposing to improve the existing disaster management services in my community by making disaster relief services available on its broadband network. By using new technology and increasing regional cooperation, it is argued that e-disaster service plans could save lives in my community. E-disaster service can improve the preparedness of the community emergency response team and save human lives and critical infrastructure. Communication can be kept intact even if the infrastructure is destroyed enabling relief operations for the people in my community to remain unaffected.

However, my community is used to face-to-face personal discussion during a disaster and still believe that face-to-face personal discussion is the most effective way to clarify issues during a disaster. People in my community would prefer the continuation of the existing disaster management system.

Social Networking

Scenario 1: Control

A new 3D social networking service is being offered. It will provide a virtual world where the actual 3D image of a person (avatar) is projected. People will be able to engage in activities such as going to a bar, attending a virtual shopping mall, or visiting a virtual club 'house' to converse with a friend avatar in real time. This service offers the opportunity for people's avatars to visit avatars from other virtual worlds, such as 'second life,' and interact with them. This service encourages special interest groups, such as Bikers, to interact through this service. Thus, it can serve their interests more effectively.

Scenario 2: Social identity salient condition

A new 3D social networking service is being offered to people in my community. It will provide a virtual world where the actual 3D image of a person (avatar) is projected. People in my community will be able to engage in activities such as going to a bar, attending a virtual shopping mall, or visiting a virtual club 'house' to converse with a friend avatar in real time. This service offers the opportunity for people's avatars to visit avatars from other virtual worlds, such as 'second life,' and interact with them. This service encourages special interest groups within my community, such as Bikers, to interact through this service. Thus, it can serve their interests more effectively.

Scenario 3: Social inertia and social identity salient

A new 3D social networking service is being offered to people in my community. It will provide a virtual world where the actual 3D image of a person (avatar) is projected. People in my community will be able to engage in activities such as going to a bar, attending a virtual shopping mall, or visiting a virtual club 'house' to converse with a friend avatar in real time. This service offers the opportunity for people's avatars to visit avatars from other virtual worlds, such as 'second life,' and interact with them. This service encourages special interest groups within my community, such as Bikers, to interact through this service. Thus, it can serve their interests more effectively.

However, this type of 3D social networking service is unfamiliar to the community. In the past, we preferred to meet people face-to-face, but lately people in my community are being served by other social networking services which we have become used too and which effectively serve our interests. Some people in the community are particularly concerned about the safety of young users who may give out on-line too much information about themselves.

E-shopping

Scenario 1: Control

A company is trying to encourage online buyers to purchase a product by giving them an actual feel for using the product in question. A 3D image of the product can be projected using a mouse-like accessory that allows the customer to feel the texture of the product. The service also simulates its actual smell. In addition, the customer can upload his/her own 3D image and interact with the product. Consequently, the customer gets a sense of what s/he would experience when actually using the item.

Scenario 2: Social identity salient condition

A company is trying to encourage online buyers in my community to purchase a product by giving them an actual feel for using the product in question. A 3D image of the product can be projected using a mouse-like accessory that allows the customer to feel the texture of the product. The service also simulates its actual smell. In addition, the customer in my community can upload his/her own 3D image and interact with the product. Consequently, the customer in my community gets a sense of what s/he would experience when actually using the item.

Scenario 3: Social inertia and social identity salient

A company is trying to encourage online buyers in my community to purchase a product by giving them an actual feel for using the product in question. A 3D image of the product can be projected using a mouse-like accessory that allows the customer to feel the texture of the product. The service also simulates its actual smell. In addition, the customer in my community can upload his/her own 3D image and interact with the product. Consequently, the customer in my community gets a sense of what s/he would experience when actually using the item.

However, this type of e-shopping service is unfamiliar to the people in my community. We are used to personalized, in-store shopping, especially when we need to apply our senses and/or use the product in order to evaluate it. We would prefer continuing to shop for goods that require physical interaction prior to purchase by going to existing brick and mortar stores.

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