WEB-BASED SHOPPING: CONSUMERS' ATTITUDES TOWARDS ONLINE SHOPPING IN NEW ZEALAND

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ABSTRACT

The growing use of Internet in New Zealand provides a developing prospect for E-marketers. If E-marketers know the factors affecting online New Zealand buyers' behaviour, and the relationships between these factors and the type of online buyers, then they can further develop their marketing strategies to convert potential customers into active ones, while retaining existent online customers. This paper is part of larger study, and focuses on factors which online New Zealand buyers keep in mind while shopping online. It also investigates how different types of online buyers perceive websites differently. This research found that website design, website reliability/fulfilment, website customer service and website security/privacy are the four dominant factors which influence consumer perceptions of online purchasing. The four types of online New Zealand buyers; i.e., trial, occasional, frequent and regular online buyers; perceived the four website factors differently. These buyers have different evaluations of website design and website reliability/fulfilment but similar evaluations of website security/privacy issues, which implies that security/privacy issues are important to most online buyers. The significant discrepancy in how online purchasers perceived website design and website reliability accounts for the difference in online purchase frequencies.

Key words: Internet, website, online New Zealand buyers, shopping behaviour.

1. Introduction

It has been more than a decade since business-to-consumer E-commerce first evolved. Scholars and practitioners of electronic commerce constantly strive to gain an improved insight into consumer behaviour in cyberspace. Along with the development of E-retailing, researchers continue to explain E-consumers' behaviour from different perspectives. Many of their studies have posited new emergent factors or assumptions which are based on the traditional models of consumer behaviour, and then examine their validity in the Internet context. Butler and Peppard [1998], however, explained the failure of IBM's sponsored web shopping malls by the naive assumption of the true nature of online consumer behaviour. A critical understanding of consumer behaviour in the virtual environment, as in the physical world, cannot be accomplished if the factors affecting the purchase decision are ignored or misunderstood. For instance, online consumers' concerns about lack of opportunity to examine products prior to purchase are regarded as the specific factor affecting the online buying decision. Therefore, several researchers proposed that consumers' shopping behaviour in online shops may be fundamentally different from that in the traditional environment [Alba et al., 1997; Winer et al., 1997]. More frequent online buyers are expected to use online shopping more frequently as it enhances their trust in the respective website than for less frequent online buyers. Clearly, electronic markets have some unique economic characteristics. If E-marketers intend to ignore the fundamental truths about consumer behaviour due to this point, most of the promises of E-marketing in the business-to-consumer context will not be fulfilled [Nunes, 2001].

Internet is changing the way consumers shop and buy goods and services, and has rapidly evolved into a global phenomenon. Many companies have started using the Internet with the aim of cutting marketing costs, thereby reducing the price of their products and services in order to stay ahead in highly competitive markets. Companies

also use the Internet to convey, communicate and disseminate information, to sell the product, to take feed back and also to conduct satisfaction surveys with customers. Customers use the Internet not only to buy the product online, but also to compare prices, product features and after sale service facilities they will receive if they purchase the product from a particular store. Many experts are optimistic about the prospect of online business. Forrester Research predicted that the amount of E-commerce activities worldwide will reach US$6.8 trillion by 2004, from US$43 billion in 1998 [Greenberg, 2000]. During 2001, 497.7 million Internet users worldwide generated US$615.3 billion in revenue from E-commerce transactions [IDC, 2002]. In addition to the tremendous potential of the E-commerce market, the Internet provides a unique opportunity for companies to more efficiently reach existing and potential customers. Although most of the revenue of online transactions comes from business-to-business commerce, the practitioners of business-to-consumer commerce should not lose confidence. Tedeschi [2002] forecasted that the number of online shoppers would reach 132 million in 2006, compared with the current 67 million.

The rapid growth of Internet users in New Zealand provides a bright prospect for E-marketers. According to a report by META Group [2001], New Zealand is one of the top ten countries where E-commerce can be developed. According to International Data Corporation [IDC, 2004, p.1], "…..IT solutions in New Zealand will account for 29.6% of the total spending in the IT market during 2004 and it is expected to grow rapidly over the 2000-2008 period". On the other hand, according to the 2001 New Zealand Census, 37% of households have access to the Internet. Moreover, the percentage of individuals with access to the Internet has increased steadily from 42% at the beginning of 1998 to 72% by the end of 2001 [Statistics New Zealand, 2002]. These figures show that New Zealand has literate, educated, technologically savvy *netizens* who are willing to spend money over the Internet. If E-marketers know the factors affecting consumers' online purchase decisions, and how consumers make these decisions, they can develop their marketing strategies to convert potential customers to real ones, and also to retain existing customers. This study is expected to improve our understanding of online consumer behaviour. In addition, some valuable insights on how to develop effective strategies to obtain success in the intensive electronic marketplace will be presented to E-marketers.

In this paper we identify four different factors; including website design, website reliability/fulfilment, website customer service and website security/privacy as perceived by online buyers; that affect online purchase behaviour. We used a factor analysis technique to classify these four factors which buyers keep in mind while shopping online. We classified online buyers into different categories; including trial online buyers, occasional online buyers, frequent online buyers and regular buyers; on the basis of purchase frequency. Based on a survey of 102 respondents we investigated how these various categories of online buyers perceived these four factors. We found that it is a challenge for E-marketers to convert low frequency online buyers into regular buyers through successful website design and by addressing concerns about reliable performance.

2. Literature Review

The current literature on consumer online purchasing decisions has mainly concentrated on identifying the factors which affect the willingness of consumers to engage in Internet shopping. In the domain of consumer behaviour research, there are general models of buying behaviour that depict the process which consumers use in making a purchase decision. These models are very important to marketers as they have the ability to explain and predict consumers' purchase behaviour.

The classic consumer purchasing decision-making theory can be characterized as a continuum extending from routine problem-solving behaviours, through to limited problem-solving behaviours and then towards extensive problem-solving behaviours [Schiffman et al., 2001]. The traditional framework for analysis of the buyer decision process is a five-step model. Given the model, the consumer progresses firstly from a state of felt deprivation (problem recognition), to the search for information on problem solutions. The information gathered provides the basis for the evaluation of alternatives. The development and comparison of purchasing evaluation criteria result in the actual decision to buy. Finally, post-purchase behaviour is critical in the marketing perspective, as it eventually affects consumers' perception of satisfaction/dissatisfaction with the product/service. This classic five stage model comprises the essence of consumer behaviour under most contexts. Nevertheless, the management of marketing issues at each stage in the virtual environment has to be resolved by individual E-marketers. Peterson et al. [1997] commented that it is an early stage in Internet development in terms of building an appropriate dedicated model of consumer buying behaviour. Decision sequences will be influenced by the starting point of the consumer, the relevant market structures and the characteristics of the product in question.

Consumers' attitude towards online shopping is a prominent factor affecting actual buying behaviour. Jarvenpaa

and Todd [1997] proposed a model of attitudes and shopping intention towards Internet shopping in general. The model included several indicators, belonging to four major categories; the value of the product, the shopping experience, the quality of service offered by the website and the risk perceptions of Internet retail shopping. In the research conducted by Vellido et al. [2000], nine factors associated with users' perception of online shopping were extracted. Among those factors the risk perception of users was demonstrated to be the main discriminator between people buying online and people not buying online. Other discriminating factors were; control over, and convenience of, the shopping process, affordability of merchandise, customer service and ease of use of the shopping site. In another study, Jarvenpaa et al. [2000] tested a model of consumer attitude towards specific web-base stores, in which perceptions of the store's reputation and size were assumed to affect consumer trust of the retailer. The level of trust was positively related to the attitude toward the store, and inversely related to the perception of the risks involved in buying from that store. Jarvenpaa et al. [2000] concluded that the attitude and the risk perception affected the consumer's intention to buy from the store.

Consumers' perceived risks associated with online shopping have a critical effect on their decision making. Risk perception refers to the "……trustor's belief about likelihoods of gains and losses outside of considerations that involve the relationships with the particular trustee" [Mayer et al., 1995, p.726]. Although some early research suggests that risk perception may play a minor role in the adoption of online shopping [Jarvenpaa and Todd, 1997], recent results from several studies have identified that consumers' risk perception is a primary obstacle to the future growth of online commerce [Culnan, 1999]. Consumer risk perceptions and concerns regarding online shopping are mainly related to aspects involving the privacy and security of personal information, the security of online transaction systems and the uncertainty of product quality.

Trust is interwoven with risk [McAllister, 1995]. One of the consequences of trust is that it reduces the consumer's perception of risk associated with opportunistic behaviour by the seller [Ganesan, 1994]. Lack of trust is frequently reported as the reason for consumers not purchasing from Internet shops, as trust is regarded as an important factor under conditions of uncertainty and risk in traditional theories. Kim and Benbasat [2003] identified four categories of trust related issues: "personal information, product quality and price, customer service, and store presence" (p.49). As a new form of commercial activity, Internet shopping involves more uncertainty and risk than traditional shopping. In the virtual environment, a consumer cannot physically check the quality of a product before making a purchase, or monitor the safety and security of sending sensitive personal and financial information; e.g., credit card details; through the Internet to a party whose behaviours and motives may be hard to predict.

Mayer et al. [1995] developed a model which combines traditional marketing philosophy on consumer motivation to buy and the trust model. In this model, trust propensity; which is a personality trait possessed by buyers; is an important antecedent of trust. In Internet shopping, there is not much information available to the buyer regarding the seller, prior to purchase. A buyer with a high propensity to trust will more likely be a potential customer than a buyer with a lower propensity. Mayer et al. [1995] proposed that ability, benevolence and integrity constitute the main elements of trustworthiness. Ability refers to skills, competencies and characteristics that a seller has in a specific domain. In this context, sellers need to convince buyers of the competence of their companies in the Internet shopping business. Benevolence is the extent to which the seller is perceived by the buyer as wanting to 'do good'. Sellers have to convince buyers that they genuinely want to do good things for buyers, rather than just maximize profit. Integrity refers to the buyer's perception that the seller adheres to a set of principles which the buyer finds acceptable. A high level of trust by buyers has been found to stimulate favourable attitudes and behaviour [Schurr and Ozanne, 1985; Anderson and Narus, 1990].

A consumer's trust in an Internet store can be thought as the consumer's trust directly in the store. Nevertheless, Hoffman et al. [1999] argued that the effectiveness of third-party trust, certification bodies and the public key encryption infrastructure for ensuring financial security, are the central success factors for building consumer trust in Internet shopping. Kini and Choobineh [1998] suggested that trust in the Internet business is necessary, but not sufficient, for an Internet buying behaviour to take place. The consumer must also trust the transaction medium for online shopping.

In addition to the impact of trust and perceived risks associated with online shopping, enjoyment of the online shopping experience is also an important determinant of retaining online shoppers [Rice, 1997]. Many online purchasers said that they would not shop on a particular website next time if they had an unpleasant experience with it. On the web, shopping enjoyment is positively and significantly related both to attitudes and intentions toward shopping on the web [Eighmey, 1997]. Online shopping is, however, a different experience from shopping in a physical retail store. One major point of difference deals with *store atmospherics* [Engel et al., 1990]. This term describes the physical aspects of a store; such as colours, music type, music volume and tempo and layout of

products. Store atmospherics have a direct effect on customer mood and behaviour [East, 1997]. Web stores so far cannot fully simulate the ambiance of a physical store on account of the limitations of devices. So, the system design of the E-retailing experience must compensate for the loss of traditional in-store ambiance.

The impact of perceived ease of using the website and of transactional control, vary with the type of task the consumer is undertaking. Li et al. [1999] examined the effects of three perceived channel utilities; communication, distribution and accessibility; and four types of consumer shopping orientations; recreational, experiential, convenience and economic. Their results showed that online buying behaviour was affected by a mix of consumer shopping orientation and perceived channel utilities. Hoffman and Novak [1996] proposed that two broad categories of behaviour in which consumers engage during the phase of pre-purchase on the Internet are goal-directed and experiential behaviour. They also indicated that the flow experience is a crucial antecedent of online purchase behaviour. When shoppers are in the flow state, irrelevant thoughts and perceptions are screened out and they are immersed in the interaction with the websites. As flow experience occurs during network navigation, an issue E-marketers must consider is whether consumers' skills are competent to meet the challenges of the virtual environment. In Novak et al. [1999]'s research it was found that skill, challenge and focused attention are significant antecedents of flow, and playfulness is regarded as an important indicator of flow. The optimal stimulation level theory may be applicable to achieve the perception of playfulness. Zuckerman [1979] defined the optimal stimulation level in that "……an intermediate level of stimulation obtained from the environment corresponds to the most favourable affective reaction" [1979, p.37]. The adoption of this theory can result in the perception of ease of use and a positive attitude toward the website, as well as an actual purchase. On the other hand, the potential for information overload arising from the free flow of product information increases consumers' sense of uncertainty, which causes the search activity to become psychologically costly [Wilkie, 1994]. Therefore, the best-designed information package will generate a competitive advantage.

Information technology provides online consumers with tremendous access to information about products and services from anywhere in the world and from different sources other than solely from the product seller. The combination of less time available for shopping, limited information-processing capability and the explosive amount of information on the web has, however, led customers to demand more control, less effort and greater efficiency during shopping [Jarvenpaa and Todd, 1997]. In order to respond to the customers' desire for control and convenience, web stores have to design an efficient system to enable consumers to easily find what they need, learn more about it and quickly make a purchase decision [Baty and Lee, 1995].

Design characteristics of a web page were found to affect consumers' online buying decision. Ho and Wu [1999] found that homepage presentation is a major antecedent of customer satisfaction. The other antecedents; such as logical support, technological characteristics, information characteristics and product characteristics; are also predictive factors to satisfaction. By using a sample of 214 online shoppers, Ranganathan and Ganapathy [2002] found four key dimensions of B2C web sites; information content, design, security and privacy. They concluded that, though all these dimensions have an impact on the purchase intention, security and privacy were found to have greater impact on the purchase intent of online buyers. Dholakia and Rego [1998] investigated the factors which make commercial web pages popular. They found that a high daily hit-rate is strongly influenced by the number of updates made to the website in the preceding three month period. The number of links to other websites was also found to attract visitor traffic. Lohse and Spiller [1998] used a regression model to predict store traffic and sales revenues, as a function of interface design features and store navigation features. The findings indicated that including additional products in the store and adding a FAQ section attracted more traffic. Providing a feedback section for customers will lead to higher sales. Finally, they found that improved product lists significantly affected sales.

Lohse et al. [2000] used panel data to explore the predictors of online purchasing behaviour. They found that the typical online consumers are characterized by their wired lifestyle, and are time starved. Therefore, they suggested providing customized information for the online shoppers who buy standard or repeat items, which can lead to shoppers gaining a feeling of increased convenience, and allow them to make quick purchase decisions. In Koufaris et al. [2002]'s research, it was proposed that two types of information; non-value-added and value-added; should be used by search mechanisms in web-based stores. Jarvenpaa and Todd [1997] also found that the existence of value-added information at a commercial website can be an important incentive for people to shop online, and provides a key source of diversity. Finally, they suggested that specific information available to support consumer search, and multiple search, mechanisms with a positive challenge will increase shopping enjoyment.

The explosive growth in usage of the Internet provides a great number of potential consumers to E-marketers. Whether or not marketers can convert their potential customers into real ones and retain them depends, to a very

large extent, on the service they offer and on the perceived customer satisfaction of consumers [Churchill and Surprenant, 1982; Oliver, 1980; Luarn and Lin, 2003]. The concept of customer satisfaction occupies a central position in marketing theory and practice [Churchill and Surprenant, 1982]. Satisfaction is important to the individual consumer because it reflects a positive outcome from the outlay of scarce resources, and/or the fulfilment of previously unmet needs [Bearden and Teel, 1983]. From the perspective of antecedents and the consequences of satisfaction, Oliver [1980] proposed a model that expresses consumer satisfaction as a function of expectation and expectancy disconfirmation. Moreover, satisfaction significantly affected customer's attitudes and their intention to purchase. Many researchers have found the quality of web retailing sites is a dominant antecedent of customer satisfaction within the online shopping environment. Assuming web design as an important issue in web shopping, Wolfinbarger and Gilly [2002] developed a four-dimensional scale; .comQ; that included website design, reliability/fulfilment, customer service and privacy/security to measure the quality of an online retailing site. They found that website design quality was an important issue in customer satisfaction. This scale was tested and validated, and they recommended its use in any further study dealing with the measurement of online quality.

This review of empirical studies has embodied different factors which influence online purchasers' behavior. The antecedents of online purchase include many attitudinal components; for example, attitude towards a website and perceived risk of an online purchase. Consumers' online shopping experiences, website design and fulfillment of quality expectations are deemed as the major components to successful online transactions. The review also presented the fact that good customer service led to customer satisfaction, which in turn resulted in consumer loyalty to such websites. Many researchers have also conducted studies to measure how online consumers perceived web shop quality. The review of studies on quality measurement showed that the four-dimensional online quality scale; .comQ; developed by Wolfinbarger and Gilly [2002], could be adopted as it has already been tested and validated. Therefore, it has been adopted in this research as the main measurement system, with an addition of three more items to adapt its parameters to the current research objectives.

The review of above studies indicated that there has been no systematic research done in this area in New Zealand and the objective of this paper is to fill this gap.

3. Research Objectives

E-business is fundamentally changing the way consumers buy goods and services. This is the first study to have been conducted to investigate the online buying behaviour of New Zealand consumers. A study on how New Zealand online buyers act in an ever-changing electronic market environment, therefore, becomes necessary. What factors affect online New Zealand purchasers' behaviour? Also, what factors can explain the differences in online buying behaviour among different online buyers? Figure 1 below more clearly explains how the website design and type of online buyers are investigated in this paper. The purpose of this research study is to investigate online consumer behaviour, which in turn will provide E-marketers with a constructional framework for fine-tuning their E-businesses' strategies. The specific objectives of this research are:
1. To identify key factors influencing New Zealanders' online shopping purchase behaviour; and
2. To identify whether different categories of online New Zealand buyers; e.g., trial buyers, occasional buyers, frequent buyers and regular buyers; perceive website factors and website elements differently, and whether these perceptions affect buying behavior in different ways.
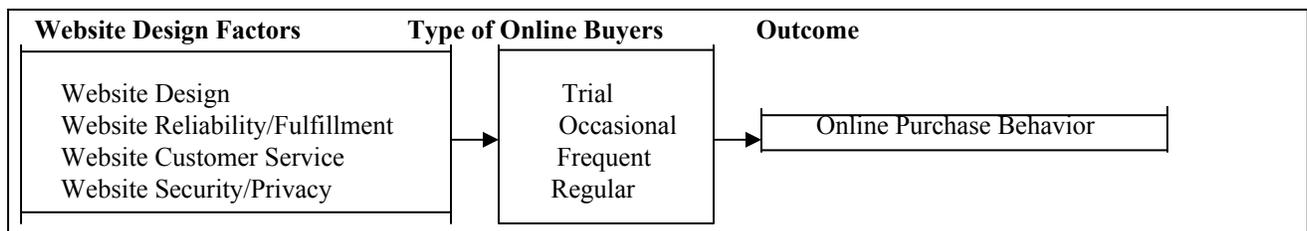
Figure 1 The Research Framework

Based upon these objectives we develop the following hypotheses:
H1: The online buyers will perceive website design factors differently; and
H2: Based upon the usage level, different types of online buyers will perceive these factors differently.

4. The Questionnaire

4.1 Questionnaire Constructs

We used the scale .comQ developed by Wolfinbarger and Gilly [2002], as it has already been tested and validated. The .comQ scale includes fourteen items to measure the quality of an online retail site. To suit our research objectives, a further three items; which were employed by Chen et al. [2002] and Srinivasan et al. [2002] in their studies; were introduced. The items were rated by using five point Likert scales anchored by 1 = *strongly disagree* and 5 = *strongly agree*. The frequency of online buying was measured by asking how many times the respondent had made purchases on the web in the most recent year. There were no research reports referring to such categories of online buyers. Therefore, in order to create these categories, consumers who purchased online *once yearly*, *2-4 times yearly*, *5-10 times yearly* and *more than 10 times yearly* were categorized as trial, occasional, frequent and regular online purchasers, respectively.

4.2 Questionnaire Design

A structured questionnaire was used for this research, as the data collection method involved a mall intercept survey. As items in the questionnaire included demographic questions (such as income, age and education level), respondents were allowed to gather information and work at their own pace through a self-administered questionnaire [McDaniel and Gates, 2002]. The questionnaire was divided into three sections, which were used to collect online buyers' behavioural and attitudinal information, demographic information, and also to measure their perception of online shopping. The structured questionnaire consisted of fixed-alternative questions. Respondents were given a number of alternative responses to choose from. The fixed-alternative questions allowed for standardized administration.

5. Research Methodology

5.1 Population and Sample

This paper targets a sample population drawn from consumers who have experienced online purchasing in New Zealand. Statistics New Zealand [2002] reported that 54% of New Zealanders have access to the Internet. According to Nielsen//NetRatings [2001], 12% of Internet users bought online in New Zealand. Moreover, households in Auckland city have the highest rate of Internet access, at around 43%. This implies that a large percentage of the sample cluster is in Auckland, and indicates that a representative sample of the different online buyers' groups can be found there.

5.2 Data Collection Methods

Several methods of data collection; eg., telephone surveys and personal surveys; were compared. The conclusion was that it would cost too much in time and money to obtain a random sample from the whole population of online shoppers in New Zealand through a random mailing survey. Web-based surveys have been used by many researchers as an appropriate way to collect information from Internet users, though self-selection is a significant limitation of this particular sampling procedure [Mathwick, 2002]. As a web-based survey was open to all Internet users in the world, it meant anyone who wished to complete the questionnaire could do so, which would deviate from our focus on New Zealand online purchasers. Moreover, the limited budget did not allow the use of a web-based survey. Therefore, in this research we adopted non-probability convenience sampling procedures, through the use of mall intercept surveys. We approached prospective respondents in shopping malls with previous online shopping experience in shopping areas of Auckland. A total of 149 questionnaires were distributed and 102 usable questionnaires were returned.

5.3 Pilot Study

A pilot survey was conducted with six people to evaluate how well the questionnaire was understood. During the interview process, some weaknesses in design were found. The ambiguity of several questions was criticized by the respondents. For instance, the phrasing of Question 5 was felt to imply that all shopping online happened in the recent past, rather than only the most recent experience. It was amended to 'shopped at most recently'. In Question 1, respondents found some periods of time overlapped, such as 'less than 1 year' and 'less than 6 months'. In the finalised questionnaire, one year was divided into 'between 7-12 months ago' and 'less than 6 months ago'.

6. Data Analysis and Results

6.1 Sample Profile

From a marketing view of point it is important to profile the online New Zealand buyers before we start discussing the results of the data analysis, as online buyers' demographics are the basis of the market segmentation.

This will affect business strategy decisions. The demographic features of online New Zealand buyers are exhibited in Table 1 below.

6.2 Website Factors and Online Buyers' Perception of These Factors

The first research objective is discussed in this section. The findings of the data analysis are discussed, and are instrumental in gaining an insight into online New Zealand buyers' behaviour. In order to identify key factors which affect online buying behaviour (research objective 1), exploratory factor analysis was performed. The results are presented below.

In order to identify the underlying dimensions in online purchasers' perception of the websites they shopped at most recently, exploratory factor analysis was employed. The respondents were asked to rate seventeen website variables, using a 5-point Likert scale, which ranged from *strongly disagree* to *strongly agree*.

The inter-item consistency reliability of these seventeen variables was tested before factor analysis was carried out. The result for Cronbach's Alpha test was .9325, and no item deletion significantly increased the result. The closer the reliability coefficient gets to the value of 1.0, the better the reliability of the measures is [Cronbach, 1951]. This scale can be considered to be good. Moreover, the results of both the KMO (.897) and Bartlett's test of sphericity (. 000), also indicate that it was appropriate to apply the exploratory factor analysis techniques to this data set. With principal components analysis and an eigen value of 1.00 as the deciding criterion, Varimax rotation yielded four factors that explained 69% of the matrix variance. According to Hair et al.'s [1995] practical significance criteria, individual item factor loadings have to exceed 0.4, and one factor should include at least two items. These practical significant criteria were fully met in the exploratory factor analysis.

Table 1 Sample Profile

	Categories	Count	Percentage
Gender	Male	54	52.9%
	Female	48	47.1%
Age	Under 21 years	11	10.8%
	21-29 years	32	31.4%
	30-39 years	33	32.4%
	40-49 years	19	18.6%
	50 + years	7	6.9%
Education level	Did not complete secondary school	7	6.9%
	Completed secondary school	20	19.6%
	Completed trade training	8	7.8%
	Completed undergraduate degree	37	36.3%
	Completed postgraduate degree	30	29.4%
Occupation	Business owner	8	7.8%
	Manager/administrator	24	23.5%
	Teacher/lecturer	11	10.8%
	Self-employed/professional	16	15.7%
	Government, or military worker	8	7.8%
	Sales, clerical, or service worker	7	6.9%
	Machine operator, or trade worker	5	4.9%
	Student	23	22.5%
Yearly Gross Income	Less than $16, 000	22	21.6%
	$16,000 to $29,999	11	10.8%
	$30,000 to $49,999	38	37.3%
	$50,000 to $79,999	24	23.5%
	$80,000+	7	6.9%

Table 2 shows the factor analysis of the seventeen variables which New Zealand online buyers used to measure the quality of websites most recently visited. This factor analysis extracted four factors from the seventeen variables. Each factor was defined by at least three scale items. The result is consistent with the findings of Wolfinbarger and Gilly [2002]. The reason was probably that fourteen out of seventeen items borrowed from their scale measured *the*

four factors at a global level [Wolfinbarger and Gilly, 2002].

Factor 1 loaded on the first eight variables. This factor can be labeled as *website design,* as these eight variables revealed the perceptions of online buyers related to the components of the website design; that is, ease of navigation, download speed, surfing ambience, speed of checkout, order processing, merchandise assortment, sufficient and useful information and price advantage. All these elements were considered as the predominant predictors of online consumers' purchasing decisions. This factor alone has explained 20% of the total variation in the factor analysis. Factor 2 was correlated most highly with variables nine, ten and eleven; i.e., on-time delivery and whether the products or services received corresponded to those described on the websites. It might be labeled as *website reliability/fulfilment*. This category's results indicated that it is important to convince buyers that E-retailers can fulfill their promises, as online consumers cannot obtain promises from salespersons as in traditional shops. This factor has explained 18% of the total variation in the factor analysis. The third factor might be labeled *website customer service*, and includes variables twelve, thirteen and fourteen. It includes, prompt response to email inquiries and the ease of returning goods purchased. The fourth factor might be labeled *website security/privacy*. It indicated that security and privacy uncertainty were two main issues for those considering purchasing online. This factor explains 15% of the total variation, and indicates the importance of this factor in the study of online shopping behavior.

Table 2 Rotated Factor Matrices of Perceived Factors Affecting Online Purchase by Online Buyers

	Variables	Factors			
		1	2	3	4
1	The website provides in-depth information.	*0.714*	0.033	0.322	0.27
2	The level of personalization at this site is about right, not too much or too little.	*0.589*	0.25	0.207	0.356
3	It is quick and easy to complete a transaction at this website.	*0.664*	0.144	0.006	0.399
4	This website has a good selection.	*0.461*	0.369	0.363	-0.044
5	The site doesn't waste my time.	*0.501*	0.154	0.375	0.381
6	This site has competitive prices.	*0.636*	0.486	0.267	-0.109
7	This website understands my needs.	*0.534*	0.403	0.517	0.077
8	I feel comfortable in surfing this site.	*0.717*	0.26	0.087	0.228
9	The product that came was represented accurately by the website.	0.259	*0.763*	0.0656	0.339
10	You get what you ordered from this website.	0.194	*0.848*	0.084	0.263
11	The product is delivered by the time promised by the company.	0.183	*0.708*	0.237	0.318
12	The company is willing and ready to respond to customer needs.	0.308	0.42	*0.638*	0.244
13	When you have a problem, the website shows a sincere interest in solving it.	0.105	-0.058	*0.869*	0.206
14	Inquiries are answered promptly.	0.196	0.219	*0.783*	0.162
15	I feel that my privacy is protected at this site.	0.162	0.293	0.108	*0.793*
16	I feel safe in my transactions with this website.	0.262	0.318	0.35	*0.638*
17	This website has adequate security features.	0.371	0.224	0.304	*0.664*
	Variation explained by each factor	20.47%	17.62%	16.68%	14.50%
	Total variation explained by these factors				69.27%
	Cronbach's Alpha		0.9325		
	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.897		
	Bartlett's Test of Sphericity:				
	Approx. Chi-Square		1013.133		
	D.F.		136		
	Significance		.000		

In order to examine how the consumers perceived website quality; in terms of website design, website

reliability/fulfilment, website customer service and website security/privacy; the mean scores for all factors have been compared. The findings of online buyers' different perceptions of the four influencing factors are presented in Table 3.

Table 3 Online Buyers' Perceptions of the Four Factors

	Website Variables	Mean	Std. Deviation
Website Design Factor	It is quick and easy to complete a transaction at this website.	3.44	1.18
	This site has competitive prices.	3.42	1.18
	This website has a good selection.	3.42	1.16
	This website understands my needs.	3.38	1.19
	The website provides in-depth information.	3.37	1.13
	I feel comfortable in surfing this site.	3.32	1.24
	The site doesn't waste my time.	3.24	1.14
	The level of personalization at this site is about right, not too much or too little.	3.19	1.15
	Overall mean of Website Design Factor	**3.45**	**1.17**
Website Reliability/Fulfillment Factor	The product that came was represented accurately by the website.	4.07	1.02
	You get what you ordered from this website.	3.94	0.94
	The product is delivered by the time promised by the company.	3.65	1.10
	Overall mean of Website Reliability/ Fulfilment Factor	**3.89**	**1.02**
Website Customer Service Factor	The company is willing and ready to respond to customer needs.	3.55	1.04
	Inquiries are answered promptly.	3.55	1.06
	When you have a problem, the website shows a sincere interest in solving it.	3.44	1.07
	Overall mean of Website Customer Service Factor	**3.51**	**1.06**
Website Privacy/Security Factor	I feel safe in my transactions with this website.	3.19	1.14
	This website has adequate security features.	3.17	1.14
	I feel that my privacy is protected at this site.	3.05	1.12
	Overall mean of Website Privacy/Security Factor	**3.13**	**1.13**
Overall mean of the four factors		**3.50**	**0.3117**

Firstly, the website design factor had; as stated in Table 3; a slightly lower mean score of 3.45 than the overall mean score of 3.50. Express checkout processing, price advantage and diversity of merchandise had high mean

scores within this factor. Ease of navigation had a lower mean, which implied that online purchasers were less satisfied with this area of service. This, in turn, had a less favourable effect on buyers' online shopping experiences. Loshe and Spiller [1998a] urged web designers to carefully design their online shop layout in order to facilitate navigation. The lower mean scores of understanding the needs of customers (3.38), and in-depth information (3.37: Table 3), indicated that online New Zealand buyers were still less satisfied with these areas. It can be said that online New Zealand buyers rated the website design factor lower than the overall average. The level of personalization, in particular, had a poor rating in this factor. Online consumers were relatively satisfied with checkout processing, price and assortment of products, compared with the lower score in the category of level of personalization. This lack of personalization could result in driving potential online buyers away, as they could not always find what they wanted.

Secondly, online New Zealand buyers rated the website reliability/fulfilment factor the highest mean score. This implied that they were more satisfied with the honesty attributes of E-retailers. Both the factor mean scores and website variables means indicated online buyers' satisfaction with E-retailers' fulfillment and reputation. All of the variables were higher than the overall factors' mean score of 3.50. Obviously, online buyers were fairly satisfied that the same products displayed online by E-retailers were delivered to them. They rated the reliability of E-retailers' delivery a slightly lower mean of 3.65 (Table 3). This implies that online buyers' were still concerned about on-time delivery.

Thirdly, online New Zealand buyers rated the website customer service factor at 3.51, which was just slightly higher than the overall perceived average score of 3.50 (Table 3). Prompt reply and response to customers' needs both had the same mean, with problem solving rating slightly lower. This implies that online consumers were satisfied with the level of customer service E-retailers provided.

Fourthly, compared with the perceived overall perception of a website with a mean score of 3.50, online New Zealand buyers rated the website privacy/security factor at a considerably lower mean score. The mean score for this factor was 3.13 (Table 3). All three variables within this factor had lower means than the variables of the other three factors; at 3.19, 3.17 and 3.05. The considerably lower mean score of the privacy/security factor suggested that consumers considered this factor to be a possible obstacle to their online purchasing. These findings are consistent with the findings of Culnan [1999], Ranganathan and Ganapathy [2002], and Gauzente [2004]. Online New Zealand buyers were close to neutral on the personal information and financial security factor. Hence, they must be reassured that the transactions are protected, though the issue of security is now more a psychological than a financial or a technological problem.

The analysis in this section has aimed at exploring how online New Zealand buyers perceived the websites they shopped at in terms of the website design factor, website reliability/fulfilment factor, the website customer service factor and the website privacy/security factor. The results confirm our first hypothesis (H1), and revealed that online purchasers' buying behaviours were affected by these four factors. Online New Zealand consumers have very different perceptions of all four factors. It was found that the E-retailers' competency in fulfilling their promises, and their honesty attributes, have satisfied their consumers. The website reliability/fulfilment factor is the most satisfactory factor for online New Zealand buyers, which, in turn, is instrumental in encouraging online buying and retaining current online purchasers.

The website customer service factor obtained the second highest mean score among the four factors. Its factor mean was higher than the perceived overall mean (3.5). This meant that online buyers were also satisfied with this factor, which can be seen as another positive factor affecting online purchasing. The two remaining factors (website design and website privacy/security) had lower factor means than the perceived overall average. Poor website design was the main reason for consumers not completing online purchases. On the other hand, the website privacy/security factor had the lowest mean score (3.13), which implied that this factor was still a possible obstacle to online buying. This factor can be considered as a potential impediment to consumers shopping online. These findings are consistent with the findings of Jarvenpaa and Todd [1997] and Vellido et al. [2000].

6.3 Perception of Online Shopping by Four Types of Online Buyers

The above-discussed results provided empirical evidence that online buyers have different perceptions of the four factors. How different types of online buyers perceived all seventeen influential website variables and four factors is, however, still unclear. A series of ANOVA tests, and the comparison of the mean values of the variables, were used to address this issue.

In this section, four types of online buyers' perceptions of the website variables were discussed. Table 4 reports the average ratings of the seventeen website variables, which measured how online New Zealand buyers perceived their most recently visited websites. Trial online buyers were defined in this research as those who had bought

products or services online once in the last year. Rankings were ordered by the mean ratings, from strong agreement to strong disagreement. Receiving the correct products and the representation of products obtained the same scores of 3.63, which were above the perceived overall mean score of 3.50 (Table 3). The next group of variables had mean scores of 3.30 to 3.00. These included on-time delivery, prompt reply, responding to customer needs and problem solving, good selection and competitive prices. The variables with low means included in-depth information, ease in completing transactions, understanding the needs of customers, comfort and ease of surfing, appropriate level of personalization, security, time efficiency, privacy, and transaction safety. Most of the website variables obtained lower mean scores than the average level. This meant that online buying experience did not reach trial buyers' expectations.

Occasional online buyers were those respondents who had bought products or services online two to four times in the last year. According to the ratings provided by online occasional buyers (Table 4), receiving the correct products and the representation of the products obtained rated above 4.0, on a five-point scale. Six variables had higher mean scores (from 3.78 to 3.70) than the category average score of 3.65. In addition, the mean scores of the other five variables were higher than the perceived overall mean score of 3.50. These eleven variables were good selection, prompt reply, responding to customer needs, on-time delivery, problem solving, competitive prices, in-depth information, understanding customers' needs, ease of completing transactions, comfort in surfing and time efficiency. The other variables; i.e., safety, appropriate level of personalization, security and privacy; were rated the lowest mean score in this category. It can be found that the number of variables with low ratings reduced along with an increase in online buying frequency. The overall category mean score of 3.65 meant that online occasional buyers were only just satisfied with the quality of the websites they visited, in comparison to the overall sample mean score of 3.5 (Table 3).

This research has defined frequent online buyers as those who had bought products or services five to ten times online in the last year. As Table 4 shows, receiving the correct products, representation of the products and ease of completing transactions, as well as on-time delivery, were rated above 4.0. Moreover, ten variables rated higher than the perceived overall mean score of 3.50 (Table 3). These ten variables were; competitive prices, prompt reply, responding to customers needs, understanding the needs of customers, problem solving, in-depth information, comfort and ease of surfing, appropriate level of personalization, security and safety. Four out of the ten had higher mean scores than the category mean (3.75). The rest; such as time efficiency, privacy and good selection; obtained the lowest mean from the frequent online buyers. The tendency of increases of variable means exists when online buyers purchase more frequently.

In this study, regular online buyers were those who had bought products or services more than ten times online in the last year. Regular online buyers rated all elements with high mean scores. All of the means were higher than the perceived overall mean score of 3.50. Thirteen of the variables were rated above 4.0. Three of them had the highest mean of 4.71. Eight out of the seventeen variables had lower means, however, than the category mean (4.23). These were; in-depth information, security, time efficiency, appropriate level of personalization, competitive prices, prompt reply, privacy and problem solving. Regular online buyers' perception of the website variables was fairly high.

It can be concluded that regular web buyers were much more satisfied with all website variables than trial web buyers, who had the poorest perception of online buying. Frequent online buyers were not as satisfied with their online buying as regular web buyers, but had a better perception than the occasional online buyers. These findings confirm the results of Jarvenpaa and Todd [1997] and Vellido et al. [2000], which highlighted trust as an impediment to online purchasing. Frequent use of online shopping helps in building the trust of online buyers.

A series of ANOVA tests were performed to test the difference in perception of the website variables in terms of the four types of online buyers. As Table 4 showed, only prompt reply (p = .134), problem solving (p = .099) and privacy (p = .108) showed no significant difference across the four types of online consumers. This indicated that the four types of online buyers had similar perceptions of these three variables. They might be satisfied with prompt reply and problem solving, but not as satisfied with privacy. The other website variables; i.e., getting the right products/services (p=. 000), the representation of products/services (p=. 003), on-time delivery (p=. 003), responding to customers' needs (p=. 011), good selection (p=. 000), competitive price (p=. 010), in-depth information (p=. 008), ease of checkout (p=. 000), understanding customers needs (p=. 001), comfort in surfing (p=. 005), appropriate level of personalization (p=. 035), security (p=. 015), time efficiency (p=. 001) and safety (p=. 001); showed significant differences across the four types of online consumers at a 95% confidence level. This indicated that the four types of online New Zealand buyers perceived most of the variables differently. The mean scores; shown in Table 4; indicate that the more often online buyers bought online, the more satisfied they were with

Table 4 ANOVA on Website Variables and Types of Online Buyers

	Trial online buyers		Occasional online buyers		Frequent online buyers		Regular online buyers		F value	Sig. P-value
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank		α=.05
You get what you ordered from this website.	3.63	1	4.32	1	4.58	1	4.71	1	6.501	.000
The product that came was represented accurately by the website.	3.63	1	4.03	2	4.42	2	4.71	1	4.861	.003
The product is delivered by the time promised by the company.	3.3	3	3.73	6	4.17	3	4.71	1	4.933	.003
Inquiries are answered promptly.	3.28	4	3.76	4	4.08	4	3.71	15	1.906	**.134**
The company is willing and ready to respond to customer needs.	3.2	5	3.76	4	3.92	5	4.29	8	3.911	.011
When you have a problem, the website shows a sincere interest in solving it.	3.15	6	3.7	7	3.83	6	3.57	17	2.147	**.099**
This website has a good selection.	3.02	7	3.78	3	3.83	6	4.57	4	6.451	.000
This site has competitive prices.	3	8	3.7	7	3.75	8	3.86	15	4	.010
The website provides in-depth information.	2.98	9	3.62	9	3.67	9	4.14	10	4.151	.008
It is quick and easy to complete a transaction at this website.	2.98	9	3.59	11	3.67	9	4.43	5	6.648	.000
This website understands my needs.	2.93	11	3.62	9	3.5	11	4.43	5	5.544	.001
I feel comfortable in surfing this site.	2.91	12	3.57	12	3.5	11	4.43	5	4.552	.005
The level of personalization at this site is about right, not too much or not little.	2.87	13	3.32	15	3.5	11	4	13	2.974	.035
This website has adequate security features.	2.85	14	3.27	16	3.5	11	4.14	10	3.648	.015
The site doesn't waste my time.	2.78	15	3.57	12	3.42	15	4.14	10	5.703	.001
I feel that my privacy is protected at this site.	2.78	15	3.19	17	3.25	16	3.71	15	2.076	**.108**
I feel safe in my transactions with this website.	2.74	17	3.43	14	3.17	17	4.29	7	6.239	.001
Average Score of different online buyers	**3.06**		**3.65**		**3.75**		**4.23**			

each website variable. This implied that E-marketers had to examine the criteria of every website variable against the four types of online buyers in order to meet their different requirements.

Another research objective of this paper pertains to differentiation in the perceptions of the four factors among the four types of online buyers. This research assumed that regular online buyers would return the highest mean score for all four factors, whereas the trial online buyers would return the lowest ratings. It was also assumed that there was no difference in the perception of the privacy/security factor across the four types of online buyers. The results of this analysis are shown in Table 5.

Table 5. ANOVA on Types of Online Buyers and Website Factors

Factors	Trial online buyers	Occasional online buyers	Frequent online buyers	Regular online buyers	F	Sig.
Website Design	2.93	3.6	3.64	4.25	4.032	**.009**
Website Reliability/Fulfillment	3.52	4.03	4.36	4.41	2.694	**.050**
Website Customer Service	3.21	3.74	3.78	3.86	1.173	.324
Website Security/Privacy	2.79	3.3	3.42	4.05	1.364	.258

As can be seen from the above table, our second hypothesis (H2) has been partially supported. The results showed that only the website design factor and the website reliability/fulfillment factor were perceived differently (with p-values of .009 and .050, respectively), among trial, occasional, frequent and regular online buyers. On the other hand, the perception of customer service and security/privacy among the four types of online buyers was not significantly different. This indicated that different types of online New Zealand buyers were fairly satisfied with customer service, but less satisfied about security/privacy issues. On the other hand, more online buying experience would positively enhance the evaluation of online purchasing, and this would result in different perceptions among the four types of online buyers. In addition, a pattern should be noticed. In each case, the level of satisfaction increases as the buyers' online shopping frequency increases. In the context of security/privacy, the pattern is consistent with GVU's [1998] research findings, which showed that Internet purchasers with more online experience were less likely to have security concerns. These findings also confirm the results of Jarvenpaa and Todd [1997] and Vellido et al. [2000], which showed lack of trust as a barrier to online purchasing. Frequent use of online shopping helps to remove that barrier, and results in building the trust of online buyers

7. Conclusions

In line with many E-marketing researches concerning the factors which cause consumer satisfaction in online purchasing experiences, this paper found that website security/privacy, website design, website reliability/fulfillment and website customer service are the four dominant factors which influence consumer perceptions of their online purchasing experiences. New Zealand online buyers had different perceptions of these four factors. Website reliability/fulfillment had the highest rating score, followed by website customer service. Website design ranked third, and the lowest was website security/privacy. Each of the four types of online New Zealand buyers has a different perception of specific website elements and website factors. Regular online buyers were much more satisfied with website variables and website factors than the other online buyers. On the other hand, trial online buyers had the poorest perception of online shopping.

This research indicates that the least satisfying aspect to buying online is still website security/privacy, which rated the lowest factor mean of 3.13. This result is consistent with the findings from the annual report of Taylor Nelson Sofres [2002]. The report highlighted security issues as the main reason for people choosing not to purchase online, yet the industry has done little to address these concerns over recent years. Consumers' concerns about online financial security and privacy are closely associated with their perception of how good the technologies for secure payment mechanisms are [Hoffman et al., 1999], and with the reputation of the vendor [GVU, 1998]. Hence, it is important for E-retailers to adopt advanced encryption technology, and post assurances of their online security on their website, in order to inform online consumers of their security measures.

Many New Zealand online purchasers are less satisfied with the website design. This factor scored the second lowest mean of 3.35 in this survey. The ambience associated with the website, and how it functions, plays an important role in whether online consumers are satisfied or dissatisfied with their online shopping experiences. Moreover, website efficiency and usability can facilitate the buying process and establish consumer confidence in

the site. On the other hand, online New Zealand buyers are more satisfied with website reliability/fulfillment and customer service. In order to consolidate this strength, E-retailers should choose more well-known products or brands to market online. Branded products and services are usually perceived by consumers as possessing better qualities. At present, advanced technologies such as 3-D technology can provide some functions (such as online interactive fitting rooms), to help consumers make better-informed choices. In the web market, efficient customer services should include a well-staffed, responsive service organization, a simple return process and ease of order tracking. Moreover, offering guarantees and warranties is an effective way of improving online customer service.

The research findings indicated that each of the four website factors identified has a crucial influence on all online buyers' perceptions of online purchasing. One of the findings also indicated that different types of online purchasers (i.e., trial, occasional, frequent and regular online buyers) have different evaluations of website design and website reliability/fulfilment. They have a similar evaluation of website security/privacy and website customer service. This implies that the security/privacy issue; with the lowest score; is an important issue occupying the mind of most online buyers. Moreover, the significant discrepancy in how online purchasers perceived website design and website reliability will account for the difference in online purchase frequencies. It is a challenge for E-marketers to convert low frequency online consumers into regular consumers through successful website design and by addressing concerns about reliable performance.

As this is the first ever research conducted on New Zealand data, it has set the groundwork for further research. Firstly, random sampling techniques are not employed in this research; the ability of the collected data to generalize the entire population is reduced because only online buyers in Auckland city were sampled. A random sample covering the whole of New Zealand should be employed to examine whether the results from this study are replicated. Secondly, the sample size was relatively small. A larger sample should be used to carry out any future research in this field.

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