

**THE IMPORTANCE OF WEBSITE CONTENT IN ONLINE PURCHASING
ACROSS DIFFERENT TYPES OF PRODUCTS**

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Abstract

Several authors have suggested that the importance of website content elements in online purchasing varies across different types of products. Our aim is to empirically test this proposition. Here, we focus on goods versus services and hedonic versus utilitarian products. After reviewing the literature on the role of website content, we hypothesize which elements are more important for which type of product. The results of an empirical study confirm most of the different roles across different types of products. This suggests that retailers would profit from taking the differences in product types into account in designing their online stores.

Key words: goods versus services, hedonic versus utilitarian products, online purchasing, website content.

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1. Introduction

The potential and growth of B2C e-commerce have stimulated researchers to explore the factors associated with website success. From a technology-centered point of view, researchers have introduced frameworks of website characteristics (e.g. Wan, 2000; Bodkin and Perry, 2004), addressed the relationships between observable website attributes and website metrics (e.g. Lohse and Spiller, 1999), and studied website usage via site statistics (e.g. Moe, 2003; Montgomery et al., 2004). From a consumer-centered perspective, consumer behavior theorists have explored the relationships between website perceptions and consumer behavior. Widely explored perceptions include trust, perceived risk (Jarvenpaa et al., 2000; Forsythe and Shi, 2003), ease of use, usefulness (Moon and Kim, 2001; Van der Heijden et al., 2003), customer service, personalization, fulfillment and security/privacy (Wolfenbarger and Gilly, 2003).

Website content refers to the features, functions, information and products offered on a website, excluding facets of web appearance or design (cf. Huizingh, 2000; Aladwani and Palvia, 2002). Findings in both research streams have found website content elements to play an important role in supporting consumer decision making when purchasing online (e.g. Lohse and Spiller, 1999; Ranganathan and Ganapaty, 2002). Several authors have suggested that this importance is to be affected by characteristics of the products to be sold (e.g. Liang and Huang, 1998; Van der Heijden and Verhagen,

2004). Although a plausible proposition, this is not backed by empirical evidence. Our aim is to test this proposition.

There are a number of product-type classifications for which the role of website content elements may differ. Here, we focus on goods versus services (Zeithaml et al., 1985) and hedonic versus utilitarian products (Hirschman and Holbrook, 1982). These classifications have been hypothesized and in part shown to have a different decision-making process; are each part of a well-established body of research; have objective criteria to determine exemplary products; and are prominent categories in Internet trading, adding to the managerial relevance of our study.

The different nature of goods and services has been discussed extensively in the literature (Zeithaml et al. 1985). Examples of empirical research into the consequences of these differences include the different determinants of firm performance (Anderson et al., 1997), differences in the content of advertising (Abernethy and Butler, 1992; Cutler and Javalgi, 1993) or use of interactive marketing (Barwise and Farley, 2005). The specific characteristics of services have also been hypothesized to lead to differences in consumer decision making (Zeithaml, 1981; Zeithaml et al., 1985); empirical research for these differences is modest, but corroborating, particularly in the use of information (Murray, 1991; Murray and Schlacter, 1990; Weinberger and Brown, 1977). This suggests that consumers may rely on different website content elements.

The hedonic versus utilitarian dimension has received increasing attention in recent years, focusing on a hedonic versus utilitarian attitude towards shopping tasks (e.g., Childers et al., 2001; Stoel et al., 2004); choice between hedonic versus utilitarian options (e.g., Dhar and Wertenbroch, 2000; Kivetz and Simonson, 2002; Okada, 2005);

and the measurement of the hedonic and utilitarian attitudes (e.g., Babin et al., 1994; Voss et al., 2003). Regarding the purchase of hedonic and utilitarian products, Holbrook and Hirschman (1982) propose that the two have a different decision-making process. Recent empirical research provides sufficient evidence for this proposition (e.g., Chandon et al., 2000; Sloot et al., 2005; Stafford et al., 2002). Therefore, it seems likely that buyers rely on different website content elements.

All four product types referred to are also prominent in Internet trading. Goods that are frequently purchased online include books and magazines, food, beer and wine, computer hardware, office equipment and sporting goods (Census.gov, 2005). Services that are bought via the Web include travel arrangements, online information services, health care, rental services and brokerage (Census.gov, 2005). From the hedonic-utilitarian perspective, typical hedonic products frequently purchased online include concert tickets, flowers, wine, jewelry, CDs and DVDs (Census.gov, 2005). Banking, real estate, office equipment, health aids, drugs, and insurance are examples of utilitarian products often purchased online (Census.gov, 2005). We therefore believe insights into the importance of website content for different product types likely to be of interest to online retailers. By differentiating website content elements to the product type to be sold, online stores will better support the consumer decision making process. In turn, such better designed websites may help in reaching higher conversion ratios (e.g., Liang and Lai, 2002).

The remainder of this study is structured as follows. First, we review the literature on website content associated with online purchasing and discuss its potentially different role in choosing goods versus services and in hedonic versus utilitarian products. Next,

we test the importance of ten different kinds of website content elements across four different products in an empirical study. Results show significant differences in the importance of website content elements. We conclude with a reflection on the results and on the implications for effective online store design.

2. Website content associated with online purchasing

In the literature, the different types of website content associated with online purchasing are starting to be explored. Some of the most important website content forms are reviewed below.

To strengthen existing needs or to trigger new needs, online store apply various forms of *promotional content* (Burke, 2002; Liang and Lai, 2002). Examples of promotional content include temporary offers, discounts and sales sections. Research has demonstrated that promotional content affects online purchasing on both the short and the long term. Given the interactive nature of the Web, consumers can react on promotions instantly at relatively low efforts (Ghose and Dou, 1998; Lohse and Spiller, 1999). By contributing to consumers' brand awareness, brand recognition and purchases attitudes, promotion content also has an impact on future consumer purchasing (Briggs and Hollis, 1997).

Attention has been paid to *company information*. As studied for decades in consumer behavior research (e.g. Bettman, 1979), consumers build upon information to arrive at adequate decision-making. Due to the lack of physical presence, online consumers use company information as cue to assess the trustworthiness of the party to be purchased from (Corritore et al., 2003). Company information is of serious interest to

those intending to purchase online (Burke, 2002) and may include company descriptions, company news and information about the company's history.

Help content is another form of content that has been associated with online purchasing. Help content refers to features that enable consumers to request for further information, to pose questions and to interact with the company in informal unstructured ways (Lang and Whinston, 1999). A typical example of help content is the online helpdesk. Online helpdesks provide consumers the support needed to purchase online more effectively (El Sawy and Bowles, 1997). Consumers not only use online helpdesks to request for various purchase-related services like the search for products and password retrieval, but also to collect information about post-purchase treatment (Wan, 2000).

The literature has paid substantial attention to content supporting consumers in evaluating alternatives. In this context, the relevance of *comparison content* and *advice content* has been highlighted. Comparison features, usually enabling sorting products on attributes like price and brand, enable consumers to assess the performance of alternatives relatively easily before applying decision rules (Grewal et al., 2004). For purchases perceived as relatively complex, consumers are likely to demand for advice in the form of real-time advice modules, interactive helpdesks or self help tools (Hanson, 2000). Advice can be provided by a company's experts but also by consumers sharing their experiences and opinions (Burke, 2002; Zeithalm et al., 2002).

The literature has paid attention to website content enabling the personalization of the website and its products. Consumers are more likely to succeed at online locations where *personalization content* is applied to match the website and its products to individual needs and preferences (Coupey, 2001; Rust and Lemon, 2001). Examples of

website aspects that are personalized include language, currency, payment settings, (confidential) information and personal recommendations. Personalization of products, also known as product customization, is accomplished through standard website options as well as by more advanced options like applications enabling collaborative product development (Sharma and Sheth, 2004).

Researchers have addressed the assortment offered by the supplier. One of the most common incentives for customers to shop online is the relatively large *size of the assortment* (Jarvenpaa and Todd, 1996; Quinn, 1999). This is probably related to the fact that a large assortment enhances the likelihood of ‘succeeding’ at the location selected. Similarly consumers place high value on *unique assortment* (Sim and Koi, 2002). The presence of unique and hard to find products allows them to locate, evaluate and purchase products that are not available elsewhere.

Previous research has underlined the importance of website content associated with security, privacy and trust (e.g. Bhatnagar and Ghose, 2004). Consumers make purchase decisions based on their level of trust in the website and the risks associated with the online purchase. Website content conveying feelings of security, confidence and trust has been positively related to online purchase behavior (Belanger et al., 2002; Forsythe and Shi, 2003). To influence consumers’ trust and risk assessments, websites apply *security content* such as secure payment methods and privacy measures.

Once consumers decide to purchase the good or service, they demand for *settlement content* features like payment options, delivery options and an order overview. Research findings demonstrate that order processes with various payment and shipping options reduce the chance that consumers abort the purchase process. It has been

recognized that website content associated with the completion of the purchase, is content that websites should, and even must have, since consumers clearly demand for it (Burke, 2002).

3. Potential differences in importance across product types

In reviewing the literature we discussed ten major kinds of website content elements: promotion content; comparison content; company information; help content; advice content; personalization content; size of the assortment; uniqueness of the assortment; settlement content; and security content. Key research question is whether the importance of these ten kinds of website content elements in supporting consumer decision making differs for goods versus services and for hedonic versus utilitarian products. Based on the literature, we hypothesize the following differences in importance of website content elements across the two product type dimensions (table 1):

TABLE 1

Expected differences

Type of website content element	Is more important for (good versus service)	Is more important for (hedonic versus utilitarian)
Promotion content	H1a: good	H1b: utilitarian
Comparison content	H2a: good	H2b: utilitarian
Company information	H3a: service	H3b: utilitarian
Help content	H4a: service	H4b: utilitarian
Advice content	H5a: service	H5b: utilitarian
Personalization content	H6a: service	H6b: hedonic
Size assortment	H7a: good	H7b: hedonic
Unique assortment	H8a: good	H8b: hedonic
Settlement content	H9a: good	H9b: equal
Security content	H10a: equal	H10b: equal

Services are generally held different from goods because of four of its characteristics: intangibility, inseparability of production and consumption, heterogeneity, and perishability (Zeithaml et al., 1985); with the first three being particularly relevant from a

consumer perspective. Several challenges arise from these characteristics. First, heterogeneity, the potential for high variability in the performance of services over time, provider and customer, results in a higher risk and uncertainty of a desired outcome (Lewis, 1976; Mitchell and Greatorex, 1993; Zeithaml, 1981). Empirical research has confirmed that consumers do indeed perceive a higher risk and have more uncertainty when looking for services (Mitchell and Greatorex, 1993; Murray and Schlacter, 1990), and also engage more actively in information seeking for services than for products (Murray, 1991; Weinberger and Brown, 1977). In terms of on-line purchasing, we may therefore expect consumers to rely more on quality cues such as company information or help and advice content (Mitchell and Greatorex, 1993; Shostack, 1977; Weinberger and Dillon, 1980). Second, the inseparability of production and consumption means that consumers are more involved in tailoring the deliverable, suggesting that in on-line purchasing interactive facilities enabling the personalization of products will be more important, although empirical results into the need for personalization are mixed (Zeithaml et al., 2002). Moreover, size and uniqueness of the assortment will be less important for services as available offerings already have a degree of customization. Third, the intangible, experiential nature of services makes it difficult to show or communicate about services or to judge their value (Bebko, 2000; Darley and Smith, 1993; Zeithaml et al., 1985). Consequently, in terms of on-line purchasing, comparison content seems less useful (Shostack, 1977). Also, promotions will be less relevant as it is difficult to compare the relative advantage. In addition, the tangible nature of physical goods means that settlement (transportation and delivery) is more of an issue than for a

service (Yadav and Varadarajan, 2005). Security on the other hand has been shown to be of equal importance for goods and services (Shih, 2004; see also Girard et al., 2002).

Hedonic consumption has been defined as the ‘multi-sensory, emotive and fantasy aspects’ of consumption (Hirschman and Holbrook, 1982). As such, it contrasts with utilitarian consumption, where consumers maximize utility as a function of objective product attributes. Holbrook and Hirschman (1982) argue that these different consumption goals lead to different buying processes. Because for utilitarian products utility is derived from objective attributes, its choice process will follow a rational decision making process of collecting information, comparing alternatives and weighing attributes (cf. Bettman, 1979). Hedonic products, on the other hand, are believed to be chosen on personal, subjective criteria (Holbrook and Hirschman, 1982; Hirschman and Holbrook, 1982). Empirical research has since confirmed that, compared to hedonic products, consumers of utilitarian products do engage in more pre-choice information acquisition, compare more options and focus more on objective features and knowledge (Grimm, 2005; Mittal, 1989; Park and Moon, 2003). Conversely, as proposed by Hirschman and Holbrook (1982), hedonic products or attributes have been found to be processed more holistically (Creusen and Schoormans, 2001), making an attribute by attribute comparison less likely. Hence, for utilitarian products company information, comparison, advice and help content will be more important. In addition, as value can be traded off more easily against utility, promotions have been found more effective than for hedonic products (Chandon et al., 2000).

Because of its sensory character, hedonic products are also marked by greater variety seeking (Inman, 2001; Van Trijp et al., 1996). Thus, for hedonic products a larger

assortment is needed to address the need for variety. A unique assortment, too, will be valued more, as uniqueness is believed to be a key feature in hedonic, particularly artistic, categories (Hirschman, 1983). In turn, personalization may help in quickly limiting the large assortment to those items that match personal taste. Finally, as security content has been found to be equally important across comparable product types (Girard et al., 2002), we expect no significant differences for hedonic versus utilitarian goods either. For settlement content, we found no indication in the literature for it to play a larger role for either hedonic or utilitarian products.

4. Method

To measure and assess the differences in the importance of the website content forms across the product types, a three-step approach was applied. First, for each content form measurement items were selected from previous literature as well as from suggestions derived from a pilot study conducted with 156 graduate students following a mandatory course e-business at a Dutch university. The results were processed, resulting in a draft questionnaire. All items in the questionnaire were measured on a seven-point Likert scale, anchored by very unimportant (1) to very important (7). This approach is similar to other works in the field of online purchasing (e.g. Belanger et al., 2002; Burke, 2002). Second, the questionnaire was further tested in a pretest conducted with a different group of 73 students following a course in service marketing at a Dutch university. During a lab experiment, the students visited and studied purchasing products at two websites. All computer systems, monitors, resolution and Internet browsers were identical. Each website visit was concluded with the completion of the questionnaire addressing the

importance of the ten content forms. We aggregated the data and studied the validity and reliability of the constructs. Some items were removed to keep the scales unidimensional or to improve reliability, resulting in a final questionnaire. Third, to assess the importance of the website content forms across both product types an empirical study was applied using a convenience sample of 256 undergraduate students following a mandatory IS course at a Dutch university. Since students frequently visit online stores and participate in online purchasing, students were considered appropriate subjects (cf. Day and Stafford, 1997). Each respondent had to study the purchase of a CD (hedonic good), a calculator (utilitarian good), a theater ticket (hedonic service) and a student home insurance (utilitarian service) at four different websites. The goods and services dimension was based on criteria as discussed in the works of Zeithaml et al. (1985, 2002). The hedonic-utilitarian nature of the goods and services was tested by the inclusion of a hedonic/utilitarian dimension instrument to the study. The websites to be studied included a Dutch online CD store (www.frs.nl), a Dutch website selling office supplies (www.centralpoint.nl), a Dutch online ticket service (www.aub.nl) and a Dutch financial services website (www.independer.nl). The websites to be studied functioned as merchant of various brands. The websites could be studied either at home or at the campus. After the respondent had studied a website, he or she filled in an online survey addressing the importance of the website content forms when purchasing the product under study. Since each respondent filled in the questionnaire for the purchase of the four products, four paired data subsets of 256 respondents were collected. The survey was concluded by having the respondents filled in the hedonic-utilitarian scale as developed by Voss et al. (2003) for all four products under study.

The demographics of the sample show that the typical respondent can be labeled as young, well-educated, experienced online shopper. With respect to the gender balance, a bias towards men was observed (69.1%). The responses on the hedonic-utilitarian scale strongly confirmed that the CD and theater ticket were perceived as high hedonic/low utilitarian products, whereas the calculator and student home insurance were seen as low hedonic/high utilitarian products (all differences significant at $p < .001$).

To assess the convergent and discriminant validity of the constructs, exploratory factor analysis (EFA) was applied to the four data subsets. Following the guidelines of Hair et al. (1998) for identifying significant factor loadings based on sample size, only factor loadings above .35 were considered significant. Some items were dropped for analysis since their loadings were rather low or to keep the constructs unidimensional. The results of the EFA are displayed in table 2 at the next page.

The data met the thresholds for sampling adequacy (CD: overall MSA 0.74, Bartlett's test of sphericity = 4941, $p < .001$; calculator: overall MSA 0.80, Bartlett's test of sphericity = 5370, $p < .001$; theater ticket: overall MSA 0.76, Bartlett's test of sphericity = 4215, $p < .001$; student home insurance: overall MSA 0.79, Bartlett's test of sphericity = 5810, $p < .001$) and suggest convergent and discriminant validity since factor loadings loaded high on their own factor and not significantly on the others. The Cronbach's alphas for the constructs (see table 2) all started at the 0.60 threshold for exploratory research (Nunnally, 1967). The vast majority of Cronbach's alpha's exceeded the 0.70 standard for more established research (Hair et al., 1998). Both EFA and reliability analysis revealed comparable results for the four data subsets, providing strong support for the validity of the constructs and the reliability of the measures.

TABLE 2

Exploratory factor analysis and reliability analysis (n = 256)

	Variance Explained (%) and factor loadings				Reliability (α)			
	<i>CD</i>	<i>calc.</i>	<i>theat. ticket</i>	<i>home insur.</i>	<i>CD</i>	<i>calc</i>	<i>theat. ticket</i>	<i>home insur.</i>
Promotion content	4.65	5.01	4.71	5.08	0.73	0.85	0.73	0.84
Temporary offers	.905	.919	.893	.876				
Special offers/sales	.884	.918	.906	.895				
Discounts	.516	.709	.545	.720				
Comparison content	6.87	6.56	6.67	11.38	0.87	0.83	0.88	0.89
Product comparisons	.823	.677	.841	.858				
Price comparisons	.833	.849	.803	.829				
Comparisons other attributes than price	.759	.768	.786	.775				
Product comparisons from different suppliers	.703	.720	.741	.833				
Company information	7.72	7.23	6.56	20.96	0.85	0.87	0.82	0.89
General company information	.838	.829	.834	.843				
Detailed company information	.893	.879	.853	.894				
Information about the company's history	.816	.839	.819	.868				
Company news	.664	.706	.630	.752				
Help content	5.14	4.11	3.77	3.77	0.75	0.80	0.65	0.78
Contact information	.689	.738	.491	.696				
Online help	.812	.789	.786	.765				
A helpdesk	.826	.836	.835	.834				
Advice content	18.47	10.04	8.51	9.06	0.91	0.89	0.86	0.88
Expert ratings of product quality	.839	.792	.764	.797				
Consumer ratings of product quality	.884	.811	.831	.798				
Customer reviews	.846	.797	.837	.831				
Experiences of experts	.831	.833	.747	.797				
Personalization content	10.95	22.49	19.26	7.26	0.87	0.89	0.86	0.85
A personal approach	.846	.838	.791	.762				
A personalized website	.888	.869	.821	.795				
A customized product	.802	.817	.826	.794				
Personalized information	.807	.778	.839	.822				
Size assortment	6.33	5.85	6.45	5.49	0.92	0.92	0.90	0.94
A large assortment	.856	.875	.892	.897				
Many products to choose from	.910	.862	.870	.915				
Product variety	.900	.887	.903	.936				
Unique assortment	5.35	6.18	5.73	6.23	0.88	0.91	0.85	0.94
Unique products	.738	.806	.749	.864				
Hard to find products	.908	.914	.901	.925				
Products hard to find at other websites	.904	.879	.882	.916				
Settlement content	3.95	3.55	3.86	3.81	0.65	0.68	0.66	0.81
Delivery promptness	.638	.738	.641	.764				
Wide choice of delivery options	.823	.841	.793	.842				
Insight status of items ordered	.771	.692	.746	.860				
Security content	4.16	4.51	5.20	4.58	0.61	0.74	0.60	0.80
Privacy protection	.603	.747	.676	.732				
Secure transactions	.878	.876	.845	.883				
Sufficient security measures	.815	.875	.825	.860				
Total variance explained	73.59	75.53	70.72	77.62				

5. Results

To assess the differences in the importance of the website content forms across the product types, average importance scores were computed for each product type. For the good-service dichotomy the averages of the CD and calculator (good) versus theater ticket and home insurance (service) were taken. The importance scores for the hedonic-utilitarian dichotomy were assessed by taking the averages of the CD and theater ticket (hedonic) versus calculator and home insurance (utilitarian). The importance scores for each product type and the results of paired sample t-tests are presented in table 3 and 4.

TABLE 3

Results paired sample T-test: good versus service (n=256)

Dependent	Good M (SD)	Service M (SD)	t-value	p-level	hypothesis	result
Promotion content	5.69 (0.850)	5.04 (1.142)	12.524	.000	H1a	accepted
Comparison content	5.59 (1.049)	5.84 (1.059)	-5.905	.000	H2a	rejected
Company information	3.43 (1.197)	4.36 (1.382)	-18.875	.000	H3a	accepted
Help content	5.13 (1.124)	5.86 (0.843)	-15.454	.000	H4a	accepted
Advice content	4.40 (1.308)	4.98 (1.097)	-11.081	.000	H5a	accepted
Personalization content	3.83 (1.328)	5.08 (1.265)	-25.556	.000	H6a	accepted
Size assortment	5.79 (0.889)	5.17 (1.146)	11.901	.000	H7a	accepted
Unique assortment	5.02 (1.262)	4.79 (1.298)	4.259	.000	H8a	accepted
Settlement content	5.61 (0.868)	5.42 (1.145)	4.398	.000	H9a	accepted
Security content	6.73 (0.467)	6.81 (0.407)	-3.374	.001	H10a	rejected

Good: average importance scores of CD and calculator; Service: average importance scores of theater ticket and home insurance

TABLE 4

Results paired sample T-test: hedonic versus utilitarian (n=256)

Dependent	Hedonic M (SD)	Utilitarian M (SD)	t-value	p-level	hypothesis	result
Promotion content	5.54 (0.866)	5.19 (1.194)	6.590	.000	H1b	rejected
Comparison content	5.17 (1.121)	6.26 (0.628)	-20.235	.000	H2b	accepted
Company information	3.57 (1.145)	4.22 (1.502)	-12.273	.000	H3b	accepted
Help content	5.31 (0.974)	5.68 (1.107)	-9.078	.000	H4b	accepted
Advice content	4.52 (1.203)	4.86 (1.255)	-5.276	.000	H5b	accepted
Personalization content	4.28 (1.205)	4.63 (1.626)	-6.877	.000	H6b	rejected
Size assortment	5.52 (1.048)	5.44 (1.092)	1.230	.220	H7b	rejected
Unique assortment	5.15 (1.120)	4.65 (1.388)	7.491	.000	H8b	accepted
Settlement content	5.64 (0.852)	5.38 (1.150)	6.210	.000	H9b	rejected
Security content	6.77 (0.412)	6.77 (0.464)	.388	.698	H10b	accepted

Hedonic: average importance scores of CD and theater ticket; Utilitarian: average importance scores of calculator and home insurance

The paired sample t-tests show that all content forms differ significantly for goods versus services: promotion content (good M=5.69; service M=5.04; $p<.001$), comparison content (good M=5.59; service M=5.84; $p<.001$), company information (good M=3.43; service M=4.36; $p<.001$), help content (good M=5.13; service M=5.86; $p<.001$), advice content (good M=4.40; service M=4.98; $p<.001$), personalization content (good M=3.83; service M=5.08; $p<.001$), size assortment (good M=5.79; service M=5.17; $p<.001$), unique assortment (good M=5.02; service M=4.79; $p<.001$), settlement content (good M=5.61; service M=5.42; $p<.001$) and security content (good M=6.73; service M=6.81; $p<.01$). These results mean that H1a, H3a, H4a, H5a, H6a H7a, H8a and H9a were accepted, whereas H2a and H10a were rejected.

Eight content forms differ significantly for hedonic versus utilitarian products: promotion content (hedonic M=5.54; utilitarian M=5.19; $p<.001$), comparison content (hedonic M=5.17; utilitarian M=6.26; $p<.001$), company information (hedonic M=3.57; utilitarian M=4.22; $p<.001$), help content (hedonic M=5.31; utilitarian M=5.68; $p<.001$), advice content (hedonic M=4.52; utilitarian M=4.86; $p<.001$) and personalization content (hedonic M=4.28; utilitarian M=4.63; $p<.001$), unique assortment (hedonic M=5.15; utilitarian M=4.65; $p<.001$) and settlement content (hedonic M=5.64; utilitarian M=5.38; $p<.001$). Consequently, H2b, H3b, H4b, H5b and H8b were accepted and H1b, H6b and H9b were rejected. No significant differences were noticed for size assortment (hedonic M=5.52; utilitarian M=5.44; $p=.220$) and security content (hedonic M=6.77; utilitarian M=6.77; $p=.698$), resulting in the acceptance of H10b and rejection of H7b.

6. Discussion and recommendations

The aim of this research was to investigate whether consumers rely on different website content elements when shopping for different types of products. Although suggested by several authors (e.g. Liang and Huang, 1998; Van der Heijden and Verhagen, 2004), this has never been tested empirically. Given the importance of website content elements as determinants of online purchase behavior (e.g. Lohse and Spiller, 1999; Ranganathan and Ganapathy, 2002), this seems a non-trivial issue.

The study indicates that decisions on website development would profit from taking the nature of the product to be sold into account. The results suggest that in selling goods, customers would value attention to the actual offering with content like assortment and promotions. Websites selling services, in contrast, are expected to profit from focusing at content enabling interaction and generating trust like help content, advice modules, information about the company and personalization options. When selling hedonic products, website design would seem more effective by focusing on personal enticement with personalization and promotions content of unique offerings. Websites selling utilitarian products, on the other hand, are more likely to aid the customer with objective choice by offering help content and possibilities for comparison of alternatives.

Most of the differences found in our experiment are as hypothesized. Six of the twenty hypothesized differences are opposite to our expectations, albeit small, but may in part be explained by the choice of stimulus. The higher importance of comparison for services may be due to the choice of a student home insurance; a standardized service and consequently easier to compare than tailor made services. In such cases, the comparison

content may actually help in acquiring more information. Similarly, the significantly greater importance of settlement for hedonic products may be due to the perishable nature of the theater ticket. An incorrect settlement (i.e., no tickets being reserved) may lead to missing the performance. An explanation for the non-significant role of assortment size in hedonic goods may be that customers do not mind how large the assortment is, as long as the particular artist they are looking for is available. A unique (i.e., “the right”) assortment would suffice. More surprising is stronger role of promotions for hedonic products, as this is in direct contrast with earlier research (Chandon et al., 2000). Perhaps this can be explained by the role of guilt in considering hedonic products (Okada, 2005), with special offers creating cognitive justifications for indulgence. However, it is unclear why this would be different in this online situation. The stronger role of personalization for utilitarian products and the stronger role of security for services are also unexpected, but here too, the difference in importance is very small.

In closing, we wish to note that while differences in consumer decision making for the two dimensions have often been argued, we found relatively few empirical investigations actually testing the posited differences. As such, the present research not only contributes to the design of online stores, but adds empirical evidence to a relatively neglected area of consumer decision making. We advocate more research in this area as it is important in both online and offline environments.

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References

- Abernethy Avery M. Butler Daniel D. Advertising information: services versus products. *Journal of Retailing* 1992; 68 (4): 398-419.
- Aladwani Adel M. Palvia Prashant C. Developing and validating an instrument for measuring user-perceived web quality. *Information & Management* 2002; 39 (May): 467-476.
- Anderson Eugene W. Fornell Claes. Rust Roland T. Customer satisfaction, productivity, and profitability: differences between goods and services. *Marketing Science* 1997; 16 (Spring): 129-145.
- Babin Barry J. Darden William R. Griffin Mitch. Work and/or fun: measuring hedonic and utilitarian shopping value. *Journal of Consumer Research* 1994; 20 (March): 664-656.
- Barwise Patrick. Farley John U. The state of interactive marketing in seven countries: interactive marketing comes of age. *Journal of Interactive Marketing* 2005; 19 (Summer): 67-80.
- Bebko Charlene P. Service intangibility and its impact on consumer expectations of service quality. *Journal of Services Marketing* (2000); 14 (1): 9-26.

- Belanger France. Hiller Janine S. Smith Wanda J. Trustworthiness in electronic commerce: the role of privacy, security, and site attributes. *Journal of Strategic Information Systems* 2002; 11 (December): 245-270.
- Bettman JR. *An Information Processing Theory of Consumer Choice*. Reading, MA: Addison-Wesley Publishing, 1979.
- Bhatnagar Amit. Ghose Sanjoy. A latent class segmentation analysis of e-shoppers. *Journal of Business Research* 2004; 57 (July): 758-767.
- Bodkin Charles D. Perry Monica. Goods retailers and service providers: comparative analysis of web site marketing communications. *Journal of Retailing and Consumer Services* 2004; 11 (January): 19-29.
- Briggs Rex. Hollis Nigel. Advertising on the web: is there response before click-through? *Journal of Advertising Research* 1997; 37 (March/April): 33-45.
- Burke Raymond R. Technology and the customer interface: what consumers want in the physical and virtual store. *Academy of Marketing Science Journal* 2002; 30 (Fall): 411-432.
- Census US Department of Commerce. *E-commerce multi-sector data tables 2003*; published May 2005; online <http://www.census.gov/eos/www/all2003tables.html>
- Chandon Pierre. Wansink Brian. Laurent Gilles. A benefit congruency framework of sales promotion effectiveness. *Journal of Marketing* 2000; 64 (October): 65-81.
- Childers Terry L. Carr Christopher L. Peck Joann. Carson Stephen. Hedonic and utilitarian motivations for online shopping behavior. *Journal of Retailing* 2001; 77 (July): 511-535.

- Corritore Cynthia L. On-line trust: concepts, evolving themes, a model. *International Journal of Human-Computer Studies* 2003; 58 (June): 737-758.
- Coupey E. *Marketing and the Internet*. Upper Saddle River, NJ: Prentice-Hall, 2001.
- Creusen Marielle E.H. Schoormans Jan. Type of information processing in judging utilitarian and expressive product attributes. *Advances in Consumer Research* 2001; 28: 395.
- Cutler Bob D. Javalgi Rajshekhar G. Analysis of print ad features: services versus products. *Journal of Advertising Research* 1993; 33 (March/April): 62-69.
- Darley William K. Smith Robert E. Advertising claim objectivity: antecedents and effect. *Journal of Marketing* 1993; 57 (October): 100-113.
- Dhar Ravi. Wertebroch Klaus. Consumer choice between hedonic and utilitarian goods. *Journal of Marketing Research* 2000; 37 (February): 60-71.
- Day Ellen. Stafford Marla R. Age-related cues in retail services advertising: their effects on younger consumers. *Journal of Retailing* 1997; 74 (Summer): 211-233.
- El Sawy Omar A. Bowles Gene. Redesigning the customer support process for the electronic economy: insights from storage dimensions. *MIS Quarterly* 1997; 21 (December): 457-483.
- Forsythe Sandra M. Shi Bo. Consumer patronage and risk perceptions in Internet shopping. *Journal of Business Research* 2003; 56 (November): 867-875.
- Ghose Sanjoy. Dou Wenya. Interactive functions and their impact on the appeal of internet presence sites. *Journal of Advertising Research* 1998; 38 (March/April): 29-43.

- Girard Tulay. Silverblatt Ronnie. Korgaonkar, Pradeep. Influence of product class on preference for shopping on the Internet. *Journal of Computer Mediated Communication* 2002; 8 (October): online at <http://jcmc.indiana.edu/vol8/issue1/girard.html>
- Grewal Dhruv. Gopalkrishnan R. Iyer. Levy Michael. Internet retailing: enablers, limiters and market consequences. *Journal of Business Research* 2004; 57 (July): 703-713.
- Grimm Pamela E. Ab components' impact on brand preference. *Journal of Business Research* 2005; 58 (April): 508-517.
- Hanson W. *Principles of Internet Marketing*. Cincinnati, Ohio: South-Western College Publishing, 2000.
- Hair JF. Anderson RE. Tatham RL. Black W.C. *Multivariate Data Analysis*. Upper Saddle River, NJ: Prentice-Hall, 1998.
- Hirschman Elizabeth C. Aesthetics, ideologies and the limits of the marketing concept. *Journal of Marketing* 1983; 47 (Summer): 45-55.
- Hirschman Elizabeth C. Holbrook Morris B. Hedonic consumption: emerging concepts, methods and propositions. *Journal of Consumer Research* 1982; 46 (Summer): 92-101.
- Holbrook Morris B. Hirschman Elizabeth C. The experiential aspects of consumption: consumer fantasies, feelings, and fun. *Journal of Consumer Research* 1982; 9 (September): 132-140
- Huizingh Eelko K.R.E. The content and design of web sites: an empirical study. *Information & Management* 2000; 37 (April): 123-134.

- Inman J. Jeffrey. The role of sensory-specific satiety in attribute-level variety seeking. *Journal of Consumer Research* 2001; 28 (June): 105-120.
- Jarvenpaa Sirkka L. Todd Peter A. Consumer reactions to electronic shopping on the world wide web. *International Journal of Electronic Commerce* 1996; 1 (October): 59-88.
- Jarvenpaa Sirkka L. Tractinsky Noam. Vitale Michael. Consumer trust in an Internet store. *Information Technology and Management* 2000; 1: 45-71.
- Kivetz Ran. Simonson Itamar. Self-control for the righteous: toward a theory of precommitment to indulgence. *Journal of Consumer Research* 2002; 29 (September): 199-217.
- Lang Karl R. Whinston Andrew B. A design of a DSS intermediary for electronic markets. *Decision Support Systems* 1999; 25 (April): 181-197.
- Lewis, William. An empirical investigation of the conceptual relationship between services and products. Unpublished Ph.D. dissertation, University of Cincinnati, 1976.
- Liang Ting-P. Huang Jin-S. An empirical study of consumer acceptance of products in electronic markets: a transaction cost model. *Decision Support Systems* 1998; 24 (November): 29-43.
- Liang Ting-P. Lai Hung-J. Effect of store design on consumer purchases: an empirical study of on-line bookstores. *Information & Management* 2002; 39 (May): 431-444.

- Lohse Gerard L. Spiller Peter. Internet retail store design: how the user interface influences traffic and sales. *Journal of Computer Mediated Communication* 1999; 5 (December): online at <http://jcmc.indiana.edu/vol5/issue2/lohse.htm>
- Mitchell, Vincent-W. and Greatedorex M. Risk perception and reduction in the purchase of consumer services. *Services Industries Journal* 1993; 13 (October): 179-200.
- Mittal Banwari. Must consumer involvement always imply more information search?. *Advances in Consumer Research* 1989; 16: 167-172.
- Moe Wendy W. Buying, searching, or browsing: differentiating between online shoppers using in-store navigational clickstreams. *Journal of Consumer Psychology* 2003; 13: 29-40.
- Montgomery Alan L. Li Shibo. Srinivasan Kannan. Liechty John C. Modeling online browsing and path analysis using clickstream data. *Marketing Science*, forthcoming, accepted February 2004.
- Moon Ji-W. Kim Young-G. Extending the TAM for a world-wide-web context. *Information & Management* 2001; 38 (February): 217-230.
- Murray Keith B. A test of services marketing theory: consumer information acquisition activities. *Journal of Marketing* 1991; 55 (January): 10-25.
- Murray Keith B. Schlacter John L. The impact of services versus goods on consumers' assessment of perceived risk and variability. *Academy of Marketing Science Journal* 1990; 18 (Winter): 51-65.
- Nunnally JC. *Psychometric Theory*. New York: McGraw-Hill, 1979.
- Okada Erica M. Justification effects on consumer choice of hedonic and utilitarian goods. *Journal of Marketing Research* 2005; 42 (February): 43-53.

- Park Chan-W. Moon Byeong-J. The relationship between product involvement and product knowledge: moderating roles of product type and product knowledge type. *Psychology and Marketing* 2003; 20 (November): 977-997.
- Quinn Chad. How leading-edge companies are marketing, selling, and fulfilling over the internet. *Journal of Interactive Marketing* 1999; 13 (Autumn): 39-50.
- Ranganathan Chandrasekaran. Ganapathy Shobha. Key dimensions of business-to-consumer web sites. *Information & Management* 2002; 39 (May): 457-465.
- Rust Roland T. Lemon Katharine N. E-service and the consumer. *International Journal of Electronic Commerce* 2001; 5 (Spring): 85-101.
- Sharma Arun. Sheth Jagdish N. Web-based marketing, the coming revolution in marketing thought and strategy. *Journal of Business Research* 2004; 57 (July): 696-702.
- Shih, Hung-P. An empirical study on predicting user acceptance of e-shopping on the Web. *Information & Management* 2004; 41 (January): 351-368.
- Shostack G. Lynn. Breaking free from product marketing. *Journal of Marketing* 1977; 41 (April): 73-80.
- Sim Loo L. Koi Sze M. Singapore's Internet shoppers and their impact on traditional shopping patterns. *Journal of Retailing and Consumer Services* 2002; 9 (March): 115-124.
- Sloot Laurens M. Verhoef Peter C. Franses Philip-H. The impact of brand equity and the hedonic level of products on consumer stock-out reactions. *Journal of Retailing* 2005; 81 (1): 15-34.

- Stafford Marla R. Stafford Thomas F. Day Ellen. A contingency approach: the effects of spokesperson type and service type on service advertising perceptions. *Journal of Advertising* 2002; 31 (Summer): 17-34.
- Stoel Leslie. Wickliffe Vanessa. Lee Kye H. Attribute beliefs and spending as antecedents to shopping value. *Journal of Business Research* 2004; 57 (October): 1067-1073.
- Van der Heijden Hans. Verhagen Tibert. Creemers Marcel. Understanding online purchase intentions: contributions from technology and trust perspectives. *European Journal of Information Systems* 2003; 12 (March): 41-48.
- Van der Heijden Hans. Verhagen Tibert. Online store image: conceptual foundations and empirical measurement. *Information & Management* 2004; 41 (May): 609-617.
- Van Trijp Hans C.M. Hoyer Wayne D. Inman J. Jeffrey. Why switch? Product- category-level explanations for true variety-seeking behavior. *Journal of Marketing Research* 1996; 33 (August): 281-292.
- Voss Kevin E. Spangenberg Eric R. Grohmann Bianca. Measuring the hedonic and utilitarian dimensions of consumer attitude. *Journal of Marketing Research* 2003; 40 (August): 310-320.
- Wan Hakman A. Opportunities to enhance a commercial website. *Information & Management* 2000; 38 (October): 15-21.
- Weinberger Marc G. Brown Stephen W. A difference in informational influences: services versus goods. *Journal of the Academy of Marketing Science* 1977; 5 (Fall): 389-402.

- Weinberger Marc G. Dillon William R. The effects of unfavorable product rating information. *Advances in Consumer Research* 1980; 7: 528-532.
- Wolfenbarger Mary. Gilly Mary C. eTailQ: dimensionalization, measuring and predicting etail quality. *Journal of Retailing* 2003; 79 (February): 183-198.
- Yadav Manjit S. Varadarajan Rajan. Understanding product migration to the electronic marketplace: a conceptual framework. *Journal of Retailing* (2005); 81 (2): 125-140.
- Zeithaml Valarie A. How consumer evaluation processes differ between goods and services. in Donnelly J.H. George W.R. (eds). *Marketing of Services*. Chicago: American Marketing Association, 1981; 186-90.
- Zeithaml Valarie A. Parasuraman. A. Berry Leonard L. Problems and strategies in services marketing. *Journal of Marketing* 1985; 49 (Spring): 33-46.
- Zeithaml Valarie A. Parasuraman A. Malhotra Arvind. Service Quality delivery through web sites: a critical review of extant knowledge. *Journal of the Academy of Marketing Science* 2002; 30 (Fall): 362-375.