

WEB-CUSTOMER SATISFACTION AND
THE EXPECTANCY-DISCONFIRMATION PARADIGM

AN ABSTRACT

SUBMITTED ON THE FIFTH OF JUNE 2006

TO THE SCHOOL OF BUSINESS

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

OF THE GRADUATE SCHOOL

OF TULANE UNIVERSITY

FOR THE DEGREE

OF

DOCTOR OF PHILOSOPHY

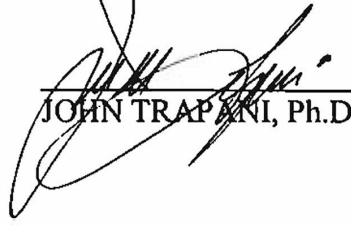
BY

Jose Miguel Ospina
JOSE MIGUEL OSPINA

APPROVED:


ED STRONG, Ph. D.
Director


VICTOR COOK, Ph.D.


JOHN TRAPANI, Ph.D.

Abstract

One of the fundamental concepts in Marketing is the notion of satisfying the needs and desires of the consumer. In order to find the satisfaction antecedents, the expectations-disconfirmation paradigm has been the most popular and robust model among satisfaction researchers.

This dissertation empirically tests the antecedents of online consumer satisfaction using the expectancy-disconfirmation paradigm in the e-commerce domain.

A laboratory experiment was conducted using a Web site that simulates a bookstore. Using constructs from marketing and information systems research, it was found that usefulness, adequacy, sufficiency and needs fitting are the main factors that determine satisfaction when the Web is used in the process of decision making. The analyses, using structural equation modeling, suggest that expectations affect satisfaction only via the disconfirmation effect, and there is not a direct effect. Expectations act as an adaptation level; there is an assimilation effect that influence satisfaction indirectly through perceived disconfirmation. Performance influences satisfaction through two mechanisms, directly via perceived performance and indirectly via the disconfirmation effect. The model that included performance, disconfirmation, and expectations as direct antecedents of satisfaction found that performance dominated the formation of satisfaction.

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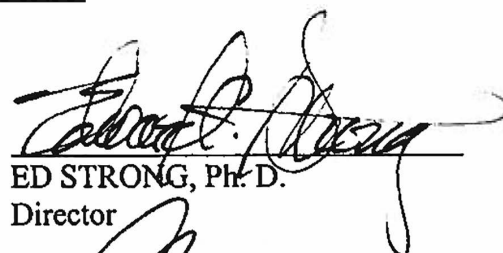
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CHAPTER 1

INTRODUCTION

The Internet has changed the relationship between firms and consumers. E-commerce has affected almost every business since the Internet became available for commercial use. Consumers can shop online 24 hours a day, 365 days a year. The use of the Internet has increased exponentially (Peterson, Balasubramanian & Bronnenberg, 1997). The Internet has changed how consumers move through the stages of the consumer decision-making process (problem recognition, search, alternative evaluation, choice and postacquisition evaluation). Therefore, it is important to know if traditional marketing paradigms can be applied in online environments.

Suppliers must pay close attention to customer satisfaction. Satisfaction ratings enable firms to connect an offered product with post-buying phenomena such as changes in behavior, repeat buying, and brand loyalty (Dubrovski, 2001). Firms' strong emphasis on how to satisfy consumers is reflected in marketing plans, salary bonuses, advertising, and positioning slogans. For that reason, it is important for firms to identify the antecedents and consequences of customer satisfaction.

Some organizations show their commitment to satisfying customers in their mission statements, advertisements, and public relations releases. It is common to find slogans such as "satisfaction guaranteed" or "if you are not satisfied, we'll refund the full purchase price." Firms spend resources to measure ratings of customer satisfaction. These

ratings are used to evaluate employees, to compare with competitors, and to establish quantitative objectives in the short term. According to Peterson and Wilson (1992, p. 61), “to be able to interpret and effectively utilize customer satisfaction ratings, it is necessary to understand what determines them as well as know what variables and/or factors relate them.”

Marketing researchers have used the expectancy-disconfirmation paradigm to explain the antecedents of satisfaction. This paradigm establishes that consumers have expectations before using a product or service. After using the product or service, they make a cognitive comparison between expectations and performance. If performance exceeds expectations (positive disconfirmation) satisfaction is produced; on the other hand, if expectations exceed performance (negative disconfirmation) dissatisfaction is produced.

A high proportion of the studies of satisfaction are related to products and services in classical contexts. Satisfaction has been analyzed in many settings: ballpoint pens (Cardozo, 1965; Anderson, 1973), recorders (Olshavsky & Miller, 1972; Tse & Wilton, 1988), clothing (Swan & Jones, 1976), household appliances (Westbrook, Newman & Taylor, 1978), flu vaccination program (Oliver, 1980), restaurants (Swan & Trawick, 1981; Swan, 1988), fast food hamburger restaurants (Prakash & Lounsbury, 1984), beer (Prakash & Lounsbury, 1984), video disc players (Churchill & Surprenant, 1982), and plants (Churchill & Surprenant, 1982). All of these settings reflect traditional non-Internet contexts, and few studies deal with customer satisfaction on the web. Szymansky and Hise (2000) state that online convenience, site design, and financial security are the main determinants of e-satisfaction, but they do not use the expectancy-

disconfirmation paradigm. McKinney, Yoon and Zahedi (2002) develop a model that operationalizes the key constructs in the analysis of web-customer satisfaction within the expectation-disconfirmation paradigm, but they do not analyze how expectations and performance affect satisfaction.

This dissertation builds upon previous research on customer satisfaction in traditional settings and on information systems. The purpose of this dissertation is to test empirically the expectancy-disconfirmation paradigm in order to discover the antecedents of satisfaction in online shopping environments. The model measures the level of satisfaction with the information provided by the Web site, information that allows the consumer to make a decision.

In the rest of this work I will first present a review of the satisfaction literature, in particular, the expectancy-disconfirmation model, its components, definitions, and measurement issues. The research framework and the hypotheses will then be discussed. Finally, research design, results, and conclusions will be explained.

CHAPTER 2

SATISFACTION LITERATURE REVIEW

2.1 Satisfaction Importance

Customer satisfaction is one of the central topics in modern marketing. Practitioners define strategies, tactics, and marketing plans to address the satisfaction of customer needs and wants.

The managerial importance of the customer satisfaction construct has been analyzed in the marketing literature. Studies show the relationship between customer satisfaction and variables of profitability (Anderson, Fornell & Lehman, 1994), purchase intention (Oliver, 1980), purchase behavior (LaBarbera & Mazursky, 1983), and productivity (Anderson, Fornell & Rust, 1997). From the consumer's perspective, consumers want to be satisfied because "satisfaction itself is a desirable end state of consumption or patronization; it is a reinforcing, pleasurable experience" (Oliver, 1997, p.10). In addition, the concept of satisfaction has been studied in aspects of human behavior such as work (job satisfaction), marriage (marital satisfaction), health care (patient satisfaction), and life in general (life satisfaction) (Oliver, 1980).

The first reference to the satisfaction concept in marketing academic journals is Cardozo's 1965 experimental study of customer effort, expectation and satisfaction. Since this publication, the satisfaction concept has generated considerable academic

research. Swan and Trawick (1993) mention that in 1972 only ten papers had been published, but that by 1982, the consumer satisfaction bibliography listed 560 papers.

Consumer behavior researchers divide consumer decision making into five stages: problem recognition, search, alternative evaluation, choice, and post-acquisition evaluation. Because the Internet provides a vast number of alternatives for the consumer, and there are search agents that help in the evaluation of alternatives, the buying process over the Internet differs from that in traditional retail stores. Therefore e-satisfaction may have different antecedents and consequences. This dissertation analyzes how consumers develop feelings of satisfaction or dissatisfaction when they use a Web site to evaluate alternatives.

2.2 Satisfaction Definition

Satisfaction is defined in multiple ways and there is little agreement on its definition (Oliver, 1997). Howard and Sheth (1969, p.145) define satisfaction as “the buyer’s cognitive state of being adequately or inadequately rewarded for the sacrifice he has undergone.” Fournier and Mick (1999, p.5) conceptualize satisfaction as “an attitude-like judgment following a purchase act or based on a series of consumer-product interactions.” These authors point out satisfaction as a cognitive process, an outcome resulting from the consumption experience.

Other definitions show the relationship between satisfaction and expectations or other antecedents. Hunt (1977, cited in Oliver, 1997, p.12) establishes that satisfaction is “an evaluation rendered that the [consumption] experience was at least as good as it was supposed to be.” Tse and Wilton (1988, p. 204) define satisfaction as “the consumer’s

response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption.” Oliver (1981, p. 27) defines satisfaction as “the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer’s prior feelings about the consumption experience.”

In this dissertation satisfaction is defined as a cognitive process resulting from the perceived discrepancy between prior expectations and the evaluation about the Web site interaction.

2.3 Psychological Theories

Three psychological theories explain the relationship between expectations and satisfaction: contrast theory, dissonance theory, and assimilation-contrast theory.

2.3.1 Contrast Theory

Helson’s (1964) adaptation level theory states that stimulus evaluations are established in relation to an adapted standard. The process has two stages: first, an adaptation level is created according to the stimulus and its context; afterward, the evaluations will be in values close to these standard levels. Only large differences compared with the adaptation level will affect these evaluations, and this difference will be magnified.

Oliver (1981) suggests that expectations perform the function of an adaptation level. The contrast theory, derived from adaptation level theory, posits that consumers compare expectations and performance. If the performance of the product fails to meet

the adaptation level (expectations), consumers will be dissatisfied.

2.3.2 Dissonance Theory

Festinger's (1957) theory of cognitive dissonance states that a psychological feeling of discomfort is produced when various cognitions about a thing are not in agreement with each other. Consumers receive information from the environment and create beliefs and attitudes in their minds. If there is a psychological dissonance between their expectations and the performance of the product or service, they modify their evaluation to bring it more in line with their expectations.

According to dissonance theory, consumers adjust their satisfaction evaluations to be more consistent with their expectations (e.g., if a consumer has high expectations and receives a poor-performance product, he will raise his evaluation of the product) (Cardozo, 1965; Anderson, 1973). Therefore, performance and satisfaction perceptions will vary directly with the level of expectations.

2.3.3 Assimilation-Contrast Theory

This theory establishes that, depending on the size of the disparity between expectations and performance, two different effects can occur. If perceptions of attribute performance differ only slightly from expectations, an assimilation effect can occur, in which, according to Anderson (1973), the consumer will tend to rate perceptions of a product in line with expectations. On the other hand, if there are large differences between expectations and performance, large disparities tend to be exaggerated; in this case a contrast effect may occur.

2.4 Satisfaction Models

The expectations-disconfirmation paradigm has been the predominant approach to studying customer satisfaction (Everelles & Leavitt, 1992; Szymanski & Henard, 2001). Studies have modeled the effects of expectations, disconfirmation of expectations, and performance on satisfaction.

According to this paradigm, consumers form expectations about a product or service prior to purchasing or using it; after that, consumers make a cognitive comparison between expectations and performance in order to form satisfaction judgments. When performance exceeds expectations (positive disconfirmation), satisfaction is produced; if expectations exceed performance (negative disconfirmation), dissatisfaction is produced.

2.4.1 Comparison Standards Paradigm

Most of the research in consumer satisfaction uses the comparison standards paradigm as one of the main determinants of satisfaction.

Comparison standards are the referents used by consumers to evaluate product performance and form disconfirmation and satisfaction judgments (Halstead, 1999). LaTour and Peat (1979) suggest that consumers have a comparison level for each salient product attribute. Oliver (1980) states that researchers in the areas of job, life, self, and patient satisfaction agree that satisfaction is a function of an initial standard and some perceived discrepancy from the initial reference point.

The comparison standards paradigm establishes that consumers compare performance with standards; therefore, they form disconfirmation judgments and finally satisfaction judgments. Satisfaction is produced when performance exceeds standards

(positive disconfirmation).

The following comparison standards have been used by satisfaction researchers: expectations, experience-based norms, desires, and equitable performance.

2.4.1.1 Expectations

Expectation was one of the first determinants to be established as an antecedent of satisfaction. Cardozo (1965) states that customer satisfaction with a product is influenced by the effort expended to acquire the product and the expectations concerning the product.

Expectations reflect anticipated performance. These expectations are termed as predictive expectations by Prakash (1984). Expectations are defined as an anticipation of how well the product will perform on some attributes of importance (Swan & Trawick, 1981), estimates of anticipated performance level (Prakash, 1984), consumers' beliefs that a product has certain attributes (Everelles & Leavitt, 1992; Spreng et. al., 1996), consumer-defined probabilities of the occurrence of positive and negative events if the consumer engages in some behavior (Oliver, 1981), or pretrial beliefs about a product (Zeithaml, Berry & Parasuraman, 1993).

From the managerial point of view, Parasuraman, Berry and Zeithaml (1991) point out the importance of the expectations concept. They argue that the key to providing superior service is understanding and responding to customer expectations.

Researchers have defined different types of expectations related to a product's anticipated performance: (1) predictive expectations, or consumer beliefs about how well the product will perform on certain attributes (Olson & Dover, 1976; Swan & Trawick,

1981); (2) comparative expectations, which refers to expectations about a brand as compared to similar other brands (Prakash & Lounsbury, 1984); (3) normative expectations, which are the norms or standards that should be met in order for a consumer to be satisfied (Prakash & Lounsbury, 1984; Parasuraman, Berry & Zeithmal, 1991); (4) ideal expectations, defined as the “wished for” level of performance (Tse & Wilton, 1988); and, (5) desired expectations, defined as the level at which the customer wanted the product to perform.

2.4.1.2 Sources of Consumer Expectations

Many factors affect the expectation formation process. Parasuraman, Zeithaml and Berry (1985) suggest that this process depends on the intangibility of the product. LaTour and Peat (1979) identify three factors as determinants of the comparison level for an attribute (prior experience, manufacturer-induced expectations, and others' experiences) and find that prior experience is the major determinant of satisfaction.

Expectations may be influenced by three factors: (1) the product itself, including one's prior experience, brand connotations, and symbolic elements (Oliver, 1980; Cadotte, Woodruff & Jenkins, 1987; Zeithalm, Berry & Parasuraman, 1993); (2) the context, including explicit and implicit service promises, personal selling, contracts, word-of-mouth communications, and the firm's communications to customers such as advertising (Oliver, 1980; Parasuraman, Zeithalm & Berry, 1985; Zeithalm, Berry & Parasuraman, 1993); and (3) individual characteristics including the psychological state at the time of service delivery (Oliver, 1980; Zeithalm, Berry & Parasuraman, 1993).

2.4.1.3 Expectations Measurement

The marketing literature uses two approaches to operationalize expectations:

- First, expectations as beliefs, as the probability of occurrence.
Expectations are operationalized as the performance expected or anticipated from the product or service. For example, Bearden and Teel (1983) used seven-point bipolar scales anchored by unlikely-likely, and Oliver (1980) used five-point scales anchored by no chance – certain. According to Spreng and Olshavsky (1992), if expectations are measured as beliefs or probabilities, they are positively correlated with disconfirmation.
- Some authors operationalize expectations using two measures: the probability of outcome occurrence and an evaluative aspect that assesses how good/bad the occurrence is (Oliver, 1980; Churchill & Surprenant, 1982; Tse & Wilton, 1988). Oliver (1981, p. 3) emphasizes that “both are necessary because it is not all clear that some attributes are desired by all shoppers.” Oliver (1980) measures overall expectation as the sum of belief-evaluation products. According to Spreng and Olshavsky (1992), if measurements of expectations include an evaluative aspect, most of the research has found a negative relationship between expectations and disconfirmation.

2.4.1.4 Other Comparison Standards

Apart from expectations, researchers in satisfaction have used other bases of

comparisons to arrive at satisfaction judgments.

- Experience-based norms. Comparative standards can be formed according to experience with other brands in the category. Based on their knowledge of products and brands, consumers form standards that reflect the typical performance of a particular brand (preferred brand), or an average performance of a group of brands (consideration set) (Cadotte, Woodruff & Jenkins, 1987).
- Desires. Some authors propose that in some situations, desires, defined as the aspects of a product or service that the consumer judges will lead to higher level values, are used as comparison standards (Woodruff, Cadotte & Jenkins, 1983; Spreng & Olshavsky, 1992).
- Equitable performance. These are standards based on relationships between the individual's costs/investments and anticipated rewards (Tse & Wilton, 1988).

Some researchers have suggested that there is more than one comparison standard in the satisfaction formation process (Cadotte, Woodruff & Jenkins, 1987; Tse & Wilton, 1988). Tse and Wilton (1988) find that expectation and ideal appear to represent different constructs contributing separately to the process. They state that expectations influence subjective disconfirmation and satisfaction, whereas ideal is significant in affecting perceived performance. Spreng et al. (1996), based on the disconfirmation paradigm, propose a model that includes two standards, expectations and desires.

2.4.2 Disconfirmation

A positive disconfirmation (performance evaluations greater than expectations) enhances a satisfaction judgment, while a negative disconfirmation (expectations greater than performance) decreases it. According to the assimilation theory, the effect on satisfaction depends on the size of the disparity between expectations and performance. There is a range of indifference where the consumer tends to evaluate performance in line with expectations (Anderson, 1973; Woodruff, 1983),

Although expectation and disconfirmation share conceptual elements, some studies have shown that if these constructs are measured independently, they are uncorrelated. Therefore, satisfaction can be modeled as an additive combination of expectations and disconfirmation (Swan, 1977; Oliver & Linda, 1981; Oliver, 1980). In addition, Oliver (1980) concludes that disconfirmation is more important than expectation in explaining satisfaction.

Oliver and DeSarbo (1988) suggest that it is possible to find three types of consumers: (1) expectations-influenced consumers, (2) disconfirmation-influenced consumers, and (3) consumers who use expectations and disconfirmation effects in the satisfaction response.

According to Oliver and DeSarbo (1988, p. 496), the disconfirmation effect is “thought to originate from their consumers’ associated emotional experiences.” Positive emotions associated with positive disconfirmation enhance a satisfaction judgment, while negative emotions associated with negative disconfirmation decrease it.

2.4.2.1 Disconfirmation Measurement

Two approaches have been used in the marketing literature to operationalize disconfirmation:

- **Subtractive disconfirmation.** In this approach disconfirmation is calculated as the algebraic difference between product performance and a comparison standard (LaTour & Peat, 1979). Swan and Trawick (1981) have labeled that measure inferred disconfirmation. According to Tse and Wilton (1988), this approach has support from studies in industrial and cognitive psychology where simple algebraic rules of psychological variables have been found to represent human information processes adequately over a wide variety of situations. One problem that appears in the literature when difference scores are used is the lack of reliability. Prakash and Lounsbury (1984, p. 3) emphasize this aspect when they explain that “this conclusion has been virtually sanctified in the psychometric literature in psychology to the point where differences scores are rarely used at all.” If expectations and disconfirmation separately explain satisfaction, then specifying disconfirmation as a subtractive function will induce overspecification of the model (Tse & Wilton, 1988).
- **Subjective disconfirmation.** In this approach disconfirmation is operationalized as the consumer’s perception that the performance of the object was better or worse than expected (Churchill & Suprenant, 1982; Oliver, 1980). This scale has been used for individual features as well as

for overall impressions (Oliver, 1981; Swan & Trawick, 1981). The subjective measures of disconfirmation show correlations with satisfaction measures (Oliver, 1980; Oliver, 1981; Swan & Trawick, 1981; Churchill & Surprenant, 1982; Bearden & Teel, 1983; Cadotte, Woodruff & Jenkins, 1987; Oliver & DeSarbo, 1988; Tse & Wilton, 1988). According to Spreng and Olshavsky (1992), a problem with the disconfirmation of expectations model is to limit satisfaction to aspects of the product for which the consumer has expectations.

Tse and Wilton (1988) suggest that subjective disconfirmation represents a distinct psychological construct, and to avoid multicollinearity, disconfirmation must be measured independently. On the other hand, Prakash and Lounsbury (1984) criticize subjective disconfirmation measures, because they believe that consumers adjust their evaluations in line with expectations.

Spreng et al. (1996) use two factors to measure disconfirmation: the size of the difference between expectations and performance and how good or how bad this difference is.

2.4.3 Performance

Tse and Wilton (1988) state that perceived performance should be modeled separately from expectations and disconfirmation. Studies using the expectancy-disconfirmation model have produced conflicting results. Tse and Wilton (1998) find that the effect of performance on satisfaction is greater than the effect of any other single

variable. Churchill and Surprenant (1982) find that for one of the products tested (durable product), performance is the only variable that appears to influence satisfaction. Patterson (2000) shows that the relative impact of performance and disconfirmation on satisfaction varies under different contingency conditions.

2.4.3.1 Performance Measurement

Because in most cases it is not possible to objectively measure the object's level of an attribute, it is common to operationalize performance using measures similar to attitude measures such as semantic differential or Likert-type scales (Spreng, 1999).

2.4.4 Other Satisfaction Antecedents

- Equity. Equity is defined as “a fairness, rightness, or deservingness judgment that consumers make in reference to what others receive” (Oliver 1997, p. 194). Consumers evaluate their costs and benefits and the merchant's cost and benefits. The degree to which the exchange is believed to be equitable affects satisfaction judgments. Oliver and Swan (1989) suggest that equity may augment the influence of disconfirmation in satisfaction judgments. Empirical research has found a positive relationship between equity and satisfaction (Oliver 1993; Oliver & Swan 1989a; 1989b; Swan & Oliver 1991).
- Affect. Most of the models of satisfaction use a cognitive approach. However, some researchers propose that there is an affective component (Mano & Oliver, 1993; Westbrook, 1987). Oliver (1993, p. 428) concludes

that “the cognitive and affective responses in postpurchase judgments may be seen as distinct components in response to environmental events, and each would appear to introduce its own influence on the consumption process.” Oliver (1993) finds that attribute satisfaction (dissatisfaction) influences positive (negative) affect, and positive (negative) affect has a positive (negative) influence on satisfaction.

Using the expectancy-disconfirmation model some authors have found different satisfaction results depending on some mediator variables: involvement (Oliver & Bearden, 1983), consumer experience (LaTour & Peat, 1979), type of product or service (Churchill & Surprenant, 1982), and personal values (Prakash & Munson, 1985).

2.4.5 Consequences of Customer Satisfaction

Satisfaction researchers have found a positive relationship between satisfaction and some post-consumption behaviors such as repeat purchasing (Bearden & Teel, 1983), loyalty (Oliver, 1997), and future purchase intention (Oliver, 1980; Swan & Trawick, 1981; Zeithmal, et al., 1993). Fornell (1992) concludes that industries are found to have a high level of customer satisfaction if they are highly dependent on satisfaction for repeat business. In addition, studies related with the behavior of dissatisfied consumers have shown that these consumers increase complaints to sellers (Oliver, 1997), and that they tend to increase the negative word of mouth.

2.5 Satisfaction Measurement

Some authors consider that satisfaction and dissatisfaction are separate constructs

(Mano & Oliver, 1993); however, most of the empirical research operationalizes satisfaction as an unidimensional construct using anchors such as very dissatisfied and very satisfied (Westbrook, 1980; 1981; Spreng et al., 1996). Satisfaction can be calculated as the sum or average of the satisfaction with various attributes of the product or service (Churchill & Surprenant, 1982), or as an overall evaluation of the entire product use experience (Spreng et al., 1996). Oliver (1980) uses a 6-item Likert scale, where all items are emotional in content, reflecting general feelings about a decision. In addition, Szymanski and Henard (2001) state that it is desirable to use a multi-item scale. This dissertation uses the most common approach, satisfaction as an unidimensional construct that is operationalized with a scale that evaluate the Web experience.

2.6 Satisfaction on the Web

The Internet is a global network of computer networks that has its origins in the 1960s in the United States Department of Defense Advanced Research Projects Agency. The Internet stores vast amounts of information and provides an efficient channel for advertising; it serves as a transaction medium, as a physical distribution medium for certain goods and information services, and as a channel for information acquisition. The Internet has a high level of interactivity, which diminishes interpersonal interactions.

The World Wide Web (Web) is one of the Internet's most popular services, providing access to billions of Web pages. The Web is a collection of interconnected documents, linked by hyperlinks. The focus of this dissertation is e-commerce, defined as the process of doing commercial transactions between and among firms and individuals, using the Internet and other technologies.

The importance of the Internet and how the relationship between consumers and firms is modified has been analyzed in the marketing literature. Today, the consumer makes purchase decisions in a different way than using traditional retailers and the process of satisfaction formation is different in Internet settings. The Web enables consumers to access merchandise unavailable in their local markets and to screen the offering of many suppliers (Alba et al., 1997). New advances in technology have made it possible for customers to take greater control of the purchase and consumption experience than ever before (Rust & Lemon, 2001). The customer has the control to customize the product or service, to decide where to purchase, and to choose the delivery channel. This shift toward greater consumer control leads to higher consumer expectations of ease and convenience (Rust & Lemon, 2001).

The Web is dramatically altering the traditional view of advertising and communication media. The Web provides an efficient channel for advertising, using interactive multimedia many-to-many communication (Hoffman & Novak, 1996). The Web changes the form of communication between sellers and buyers. Interactivity allows consumers to look for information that is relevant and fits their individual needs. In addition, the Internet lowers the cost to consumers of communicating with firms.

Firms are customizing product offerings through the aggregation and disaggregation of information-based product components to match customer needs (Bakos 1998). The growing population of the Internet searches online for product information; however, online buying is not a common activity. Sismeiro and Bucklin (2004) affirm that nearly 75% of Internet users browsed, researched, or compared products online; however, more than 65% of those shoppers never used the Internet to

make an actual purchase. Peterson, Balasubramanian and Bronnenberg (1997) argue that using the Internet for marketing purposes does not increase overall consumer spending, but rather produces a redistribution of revenues among channels.

Brick-and-mortar retailers have to consider how the Internet changes the business models. Peterson et al. (1997) state that the Internet will probably cause some degree of disintermediation or vertical integration compared with conventional retailing channels. Kannan et al. (2001) state that the pricing of products and services sold over the Internet channel is becoming more dynamic. New pricing strategies are being applied to goods and services sold over the Internet. This can be seen in the case of auctions and biddings.

The Internet changes the process of how consumers make decisions when they buy a product or service. Consumer decision making consists of a series of five stages: problem recognition, search, alternative evaluation, choice, and postacquisition evaluation (Mowen & Minor, 1988). In the problem recognition phase, the customer recognizes an unsatisfied need, and the Internet provides different alternatives about how to satisfy this need. In the search phase, in order to reduce uncertainty about making a bad decision, consumers navigate the Web in order to learn about products or services and to look for information on competing brands and products and their features. In the evaluation phase, information on the Web sites could change beliefs and perceptions related with brands or specific product attributes. Information related with customer comments and product performance could reduce the risk of choosing a bad product or service. Finally, the level of satisfaction depends on the experience with the product and the process of buying it.

The user satisfaction construct has been studied in the management information systems field. Otto et al. (2000) found that respondents rate the Web pages with a faster download time higher than those with the slower download time. However, the differences were not statistically significant, suggesting that downloading time does not affect a user's overall satisfaction (content, format, ease of use). According to Bailey and Pearson (1983), "measuring and analyzing computer user satisfaction is motivated by management's desire to improve the productivity of information systems." They identified 39 factors that affect user satisfaction such as expectations, accuracy, timeliness, reliability, relevance, currency, convenience of access and perceived utility. To measure end-user satisfaction Doll and Torkzadeh (1988) developed an instrument that merges ease of use and information product items. Doll et al. (1988, p.260) define end-user satisfaction as "the affective attitude towards a specific computer application by someone who interacts with the application directly." They found five components to measure end-user satisfaction: content, accuracy, format, ease of use, and timeliness.

CHAPTER 3

CONCEPTUAL MODEL

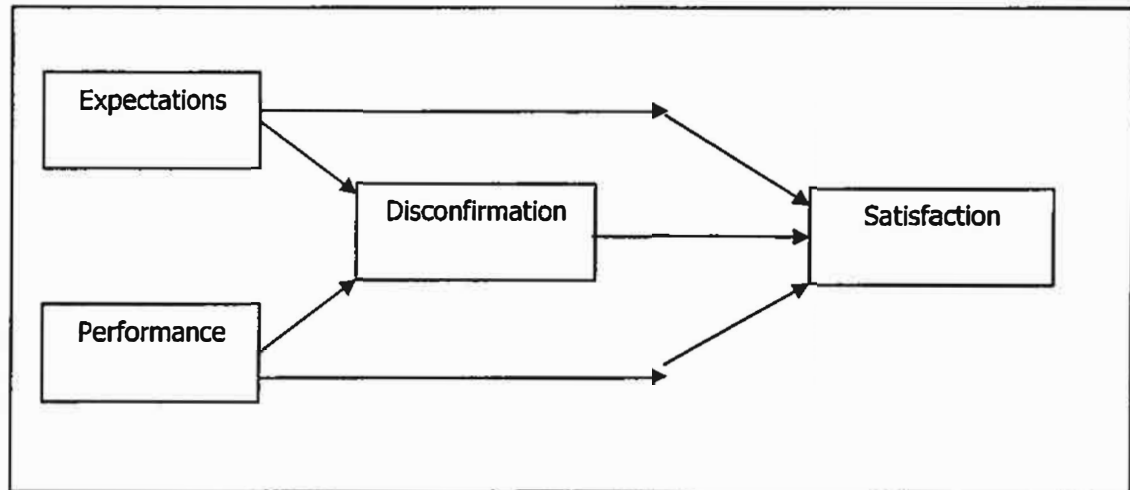
This dissertation examines satisfaction with the process of completing the tasks of searching information, evaluating alternatives, and choosing an alternative when the consumer carries out this task over the Internet. A high level of satisfaction is originated when the consumer feels that the Web site has provided adequate information, and that, therefore, the decision to purchase the product was correct.

Based upon previous research (Cadotte et al., 1987; Oliver, 1980; Westbrook & Reilly, 1983; Spreng et al., 1996), this dissertation defines satisfaction as the cognitive state resulting from the perceived discrepancy between prior expectations and the evaluation of the information giving by the Web site related with an intended purchase over the Internet.

Figure 1 shows the proposed conceptual model. The expectations, the perceived performance, and the disconfirmation effects influence satisfaction as a cognitive response to a Web experience.

Figure 1

Expectancy-Disconfirmation model



3.1 Hypotheses

In order to work the model the following hypotheses were posed.

Olshavsky and Miller (1972), in an experimental study with high and low levels for both expectations and performance, show that high expectations produce higher ratings and low expectations produce lower ratings. According to the assimilation theory, performance and satisfaction perceptions will vary directly with the level of expectations.

Hypothesis 1a: Subjects who have high expectations and find their expectations negatively disconfirmed (low performance) should evaluate performance higher than subjects who have low expectations and who experience a performance that matches these expectations.

Hypothesis 1b: Subjects who have low expectations and find their expectations positively disconfirmed (high performance) should evaluate performance lower than subjects who have high expectations and who experience a performance that matches these expectations.

Some authors suggest that there is a negative relationship between expectations and disconfirmation; high expectations are more likely to be negatively disconfirmed (Churchill & Suprenant, 1982). Spreng et al. (1996) state that because disconfirmation is positively related to satisfaction, the overall indirect effect of expectations on satisfaction should be negative. Therefore:

Hypothesis 2: There is a negative relationship between expectations and disconfirmation.

Some studies show no significant relationship between expectations and satisfaction (Oliver, 1980; Churchill & Surprenant, 1982; Spreng & Olshavsky, 1993). However, most of the empirical findings support the hypothesis that there is a positive relationship between expectations and satisfaction, independently of the disconfirmation effect (Oliver, 1980; Churchill & Surprenant, 1982; Bearden & Teel, 1983; Cadotte, Woodruff & Jenkins, 1987; Oliver & DeSarbo, 1988; Tse & Wilton, 1988; Anderson, Fornell & Lehman, 1994). Therefore:

Hypothesis 3: There is a positive relationship between expectations and satisfaction.

Prior research has included performance as an antecedent of disconfirmation (Bearden & Teel, 1983; Cadotte, Woodruff & Jenkins, 1987; Oliver, 1980; Westbrook,

1987). Swan (1988) concludes that as performance increases, disconfirmation becomes more positive. Therefore:

Hypothesis 4: There is a positive relationship between performance and disconfirmation.

Tse and Wilton (1988) suggest that the effect of perceived performance should be modeled separately from expectations. Studies using different products show that performance has direct and positive effect on overall customer satisfaction (Churchill & Suprenant, 1982; Anderson & Sullivan, 1993; Swan, 1988; Tse & Wilton, 1988; Oliver & DeSarbo, 1988). Therefore:

Hypothesis 5: There is a positive relationship between performance and satisfaction.

Researchers have found that disconfirmation and satisfaction are positively correlated (Anderson, 1973; Bearden & Teel, 1983; Churchill & Suprenant, 1983; LaTour & Peat, 1979; Maddox, 1981; Oliver 1980; Olshavsky & Miller, 1972; Swan & Combs, 1976; Swan & Trawick 1981; Tse & Wilton, 1988; Woodruff, Cadotte & Jenkins, 1983; Halstead, 1999; Szymanski & Henard, 2001). Therefore, as disconfirmation becomes more positive, satisfaction increases, resulting in:

Hypothesis 6: There is a positive relationship between disconfirmation and satisfaction.

3.2 Research Methodology

3.2.1 Information Attributes

In a purchase situation, Spreng and Olshavsky (1992) state that satisfaction with a

product or service is affected by the product's evaluations (attribute satisfaction) and by the information used in choosing the product (advertising, package information, personal selling). Empirical studies have found that satisfaction with the product and satisfaction with the information are independent determinants of overall satisfaction (Spreng & Olshavsky, 1992). In addition, some authors identify a positive relationship between information satisfaction and overall satisfaction (Spreng et al., 1996).

This dissertation focuses on information satisfaction, because technological attributes of the web sites can be easily imitated. Over the Internet, website differentiation can be established according to the quality of the information that is given to the consumer. Today a lot of information about products and services is provided by Internet to the consumers, and this information affects the formation of consumer expectations.

Consumer satisfaction with the purchase decision experience is a function of how consumers feel about the main aspects of that experience (Westbrook et al., 1978). Based upon literature from consumer behavior (consumer satisfaction) and information systems (user satisfaction), this dissertation determines a list of attributes that are important to consumers when purchase a product or service over the Internet. The five main factors identified in the consumer behavior and information systems literature are usefulness, ease of use, content-adequacy, timeliness and efficiency-effectiveness (Davis, 1989; Keller & Staelin, 1987; Agarwal & Venkatesh, 2002; McKinney et al., 2002; Bailey & Pearson, 1983; Doll & Torkzadeh, 1988; McGaughey & Mason, 1998).

The two first factors are usefulness and ease of use. Davis (1989) developed two scales to measure these factors in the context of information systems. These constructs

are determinants of user acceptance, which have a positive correlation with user satisfaction. Keller and Staelin (1987) separate attribute information into two components: information quality and information quantity. Consumers tend to engage in relational behaviors to achieve greater efficiency in their decision making, to achieve more cognitive consistency in their decisions, and to reduce the perceived risk associated with future choices (Park & Kim, 2003). According to Keller and Staelin (1987, p. 202), information quality refers “to the usefulness of the available attribute information in aiding a decision maker to evaluate his/her true ability associated with an alternative.”

Perceived usefulness is defined by Davis (1989, p. 320) as “the degree to which a person believes that using a particular system would enhance his or her job performance.” This dissertation adapts these concepts and defines perceived usefulness as the degree that using information provided by the Web site improves the decision making process.

The second factor is perceived ease of use, or “the degree to which a person believes that using a particular system would be free of effort” (Davis 1989, p.320). Agarwal and Venkatesh (2002) define ease of use as the cognitive effort required in using a Web site. McKinney et al. (2002) conclude that understandability (information clear in meaning, easy to comprehend, easy to read) is a factor that explains information quality. This dissertation defines ease of use as how easily a consumer makes a purchase decision over the Internet.

Content and adequacy are other factors that determine user satisfaction (Bailey & Pearson, 1983; Doll & Torkzadeh, 1988; Mckinney et al., 2002). Bailey and Pearson (1983) developed a scale to measure computer user satisfaction. They find that factors such as accuracy, currency and relevancy are good measures of satisfaction. Doll and

Torkzadeh (1988) propose an instrument to measure end-user computing satisfaction; this construct is measured by five factors: content, accuracy, format, ease of use, and timeliness. According to Doll and Torkzadeh (1988), the content factor includes subscales related with how the information content meets needs and how the system provide sufficient information. Mckinney et al., (2002) propose an adequacy factor that measures if information is sufficient and adequate for the purchase decision. This dissertation adapts these concepts and defines a factor called content-adequacy.

The timeliness factor includes subscales that evaluate if the system provides up-to-date information (Doll and Torkzadeh, 1988). Mckinney et al. (2002) propose a reliability factor that determines the accuracy and credibility of the information provided by the Website.

Peterson et al. (1997) state that the Internet can be considered as a market discontinuity, which can dramatically affect the performance of a firm or an industry. Similar to any innovation, the Internet will need to match or exceed the utility provided by traditional formats to succeed (Alba et al., 1997). The Internet offers benefits that can help consumers be more efficient and effective. Consumer efficiency can be enhanced by the Internet's potential to provide rapid access to product related information, saving consumers time, effort, and money (McGaughey & Mason, 1998). The Internet and the World Wide Web serve as intermediaries between buyers and sellers, lowering costs to acquire information about seller's prices and product offerings (Bakos, 1997). This dissertation adapts these concepts and defines efficiency-effectiveness as the degree that shopping over the Internet provides more benefits and less cost than shopping in traditional retail stores.

Table 1 shows the five factors or attributes and the corresponding subscales, which are used in this dissertation to measure expectations, disconfirmation and perceived performance.

Table 1
Information Attributes

Attribute	Subscale – items
Usefulness	<ul style="list-style-type: none"> - Information improves decision-making ability - Information is useful in making purchase decision - Information makes purchase decision easier - Information expedites shopping time - Information improves confidence in decision - Information reduces decision risk
Ease of use	<ul style="list-style-type: none"> - Buying books from this website is easy to do - Information is easy to understand - Information is easy to read - Website enables one to compare alternatives
Content-Adequacy	<ul style="list-style-type: none"> - Website provides adequate information - Website provides sufficient information for the books - Information content meets needs - Website provides sufficient information for deciding
Timeliness	<ul style="list-style-type: none"> - Information is precise - Information is up-to-date
Efficiency – Effectiveness	<ul style="list-style-type: none"> - Compared to retail store, searching for information on this website take less time - Compared to retail store, buying process is easier - Compared to retail store, price for the book bought from this website is less

3.3.2 Measurement

This dissertation adapts previously existing measures to the web experience. Five

factors that determine satisfaction with the purchase decision experience are identified: usefulness, ease of use, content-adequacy, current-timely, and efficiency-effectiveness. This dissertation measures expectations, disconfirmation, and perceived performance for each of these factors.

Westbrook and Oliver (1981) reviewed the literature in job, patient (health), marital, and life satisfaction and found that the Likert and semantic-differential scales achieved the highest reliabilities and convergent and discriminant validities. Churchill (1979) suggests using multi-item measures, because the reliability tends to increase and measurement error decreases as the number of items in a combination increases. To increase the reliability this dissertation operationalizes each factor using a multi-item scale (table 1). Each item is operationalized with a Likert or semantic-differential scale.

Different authors disagree on the number of response alternatives for a scale (Cox, 1980). Cox recommends for the applied researcher to use nine alternatives if the stimuli are heterogeneous and the respondents are sophisticated. Green and Rao (1970) suggest using at least eight-point scales. This dissertation uses ten-point scales because it is more discriminating than 7-point scales and it is the most intuitively understood scale (young children learn counting 1 to 10).

In the proposed model expectations, perceived performance, and disconfirmation are the three factors that are considered as antecedents of satisfaction (figure 1).

Expectations are operationalized as beliefs, as the perceived probability of occurrence. Expectation measures use semantic-differential ten-point scales anchored “not at all likely – highly likely” for each attribute.

Perceived performance is defined as “beliefs regarding the product attributes,

levels of attributes, or outcomes” (Spreng et al., 1996, p. 20) or as “the perceived amount of product or service attribute outcomes received” (Oliver, 1997, p. 28). These perceived performance definitions are distinct from actual performance, which refers to the outcome that can be measured in some empirical way (Spreng, 1999). Perceived performance measures use a 10-point Likert scale anchored “strongly disagree – strongly agree” for each attribute.

Disconfirmation is operationalized as the consumer’s perception that the performance was better or worse than expected. Disconfirmation measures use semantic-differential ten-point scales anchored “far below expectations – far above expectations.”

Researchers do not agree on how to measure satisfaction. Some authors operationalize it as either an unidimensional construct (Westbrook, 1980; Spreng et al., 1996), as two separate constructs (Mano & Oliver, 1993), as an overall evaluation (Spreng et al., 1996), or as a composite of attributes satisfaction (Churchill & Surprenant, 1982). This dissertation measures overall satisfaction as an affective state that is the emotional judgment of the information used in choosing an alternative over the Internet (Oliver, 1980). Overall satisfaction is measured by asking the respondents about their satisfaction with the information and their satisfaction with the decision. Both questions use ten-point scales anchored as “very dissatisfied / very satisfied.”

3.2.3 Research Design

This research adopts the concept of transaction-specific satisfaction, which refers to the consumer’s satisfaction with a discrete service encounter (Jones & Suh, 2000). Although satisfaction can be conceptualized as an evaluative judgment following a series

of interactions with a service, most of the research emphasizes the transaction-specific view (Fournier & Mick, 1999). To simulate the transaction over the Web and to test the expectancy – disconfirmation model one experiment is designed.

Experimentation is commonly used to infer causal relationships. A psychological experiment is useful to determine the factors that influence a certain behavior and the extent and direction of their influence (Myers, 1972). The experiment was a 2 x 2 factorial design (low and high expectations, low and high performance). Each subject performed the task over the Internet under a controlled computer room setting.

Zeithaml, Parasuraman and Malhotra. (2002) state that when purchasing items online, customers are typically goal oriented. Therefore, this dissertation examines satisfaction with the process of completing the tasks of searching, evaluating, and choosing an alternative over the Internet.

According to Churchill and Suprenant (1982), the use of new products facilitates the manipulation of expectations. Some authors believe that it is desirable to use products or services with which the consumers have some familiarity. Although some consumers never have bought over the Internet, they are familiar with searching for information over the Web related to products, services, prices, and alternatives. Therefore, they have expectations related with simplicity, time, and cost savings (Alba et al., 1997). This familiarity is important in order to manipulate expectations in this experiment. Saeed, Hwang and Yi (2003) reviewed the information systems literature, and found that books were the most popular product or service used in studies related to online consumer behavior. Thus, a Web site that simulates an Internet's bookstore was designed. Each subject was instructed to carry out a task of choosing one marketing research book over

the Internet.

To test the effect of expectations and performance on satisfaction, expectations and performance are manipulated to create different conditions.

To manipulate expectations, different information was given previous to navigating in the Web. There are different ways to create expectations. In a real setting, firms manipulate these expectations (Spreng et al., 1996). Generally, expectations are manipulated giving different descriptions for products or services through printed messages. This dissertation adopts the point of view of the expectations that can be supplied for the firms, such as advertising. In advertising, firms create expectations by using a message that captures the attention from the consumer.

In this experiment, expectations are manipulated by giving subjects two different descriptions of a new Web site that will be soon launched in Colombia. The experiment uses two different booklets. The first page of the booklet shows the general instructions that subjects have to follow. Subjects were informed that they had been selected to participate in the development of their organization's marketing plan. To carry out this task they should buy a marketing research book that they would use in the future as a reference textbook in their work.

The following pages of the booklet show a general description of the Web site. This description includes the information that subjects will find over the Web site: author's curriculum vitae, table of contents, preface, book's characteristics, sample text, price, other bookstores' prices, and customer opinions. In addition, two different Web site evaluations were shown: a fabricated evaluation carried out by an independent consultant and a fabricated evaluation carried out by some consumers who had navigated the Web

site. These fabricated evaluations showed assessments of five aspects of the online shopping experience (user friendliness, information quality, information usefulness, information accuracy, and easy comparison among alternatives). Finally, the description presented the results of a fabricated focus group, showing comments given by the focus group's participants.

Subjects were exposed to the expectation manipulation booklet for 10 to 15 minutes. Finally, a survey was given to consumers in order to measure their expectations. Appendix A shows the expectation manipulation booklet and the survey. The experiment was conducted in Colombia; therefore, booklets, questionnaires, and the Websites are in Spanish.

To manipulate performance, this experiment created two conditions with different amount of information. Many researchers have studied the maximum amount of information that a consumer can process. Since Jacoby, Speller and Kohn (1974) many studies have analyzed this phenomenon, but there is no consensus on whether a relationship exists between the amount of information and choice accuracy (Keller & Staelin, 1987). Russo (1974) states that consumers both wanted and benefited from more information. Therefore, in order to manipulate performance, this dissertation uses the concept of information quantity, which Keller and Staelin (1987) define as "the number of items or attributes describing an alternative."

Two performance conditions were created by manipulating the amount of information given to the subjects with two different Web sites, showing the information related to three marketing research books. The low condition included information related with a summary of the authors' curriculum, book's price, brief contents, preface first

page, and chapter one's first page. The high condition included information related to the authors' curriculum, book's price, price comparison with other bookstores, brief contents, contents, preface, chapter one, other chapter's first pages, readers opinions, and editors opinions. Appendix B shows some pages of the Web site.

Each subject was instructed to navigate the Web site and to choose one marketing research book. Finally, a survey was given to subjects to measure disconfirmation and performance (Appendix C).

CHAPTER 4

RESULTS

4.1 Pilot Study

A first pilot study was conducted in order to purify the instrument and test the manipulation of the expectation effect. The survey instrument contained the general description of the new Web site, indicating the information that subjects will find, and a fabricated evaluation carried out by an independent consultant. In the high condition, evaluations range 4.0 to 5.0; in the low condition, evaluations range 2.5 to 3.5. In order to measure expectations level, twenty-three items were assessed using a ten-point scale anchored “not at all likely – highly likely.” Twenty-seven graduate students filled out the questionnaire. The manipulation of expectations was not successful in the first pilot study. Subjects who were exposed to the low expectations condition did not evaluate them in a different way compared with subjects exposed to the high condition. In addition, three items were dropped because of wording; some subjects did not answer some questions because the question was not clear.

Therefore, two additional fabricated evaluations were added to the survey instrument: (1) a fabricated evaluation carried out by some consumers who had navigated the Web site, and (2) the results of a fabricated focus group.

A second pilot study was done to develop the final scales for the experiment. Forty graduate students, enrolled in marketing courses at Universidad de Los Andes,

participated in the pilot study. Randomly, the high-expectations and the low-expectations instruments were assigned to each subject.

Subjects were presented with a booklet that included the new Web site's description, the information that would be provided by the Web site, and three fabricated evaluations. After reading this information, subjects were asked to fill out a questionnaire designed for measuring expectations. After that, they were exposed to the Web site in order to carry out the task of purchasing a book. Finally, they were asked to fill out a second questionnaire designed to measure disconfirmation, performance and satisfaction.

T-tests for independent samples were used in order to test the manipulation effects. Appendix D shows the results for the expectation manipulation.

Nine variables were dropped because expectation manipulation did not produce significant differences. Subjects did not find differences between low expectations condition and high expectations condition for items in the timely and efficiency-effectiveness factors. Therefore, three attributes were selected in order to design the final questionnaire. Table 2 shows these attributes and its subscales.

Table 2
Information Attributes – Final questionnaire

Attribute	Subscale – items
Usefulness	<ul style="list-style-type: none"> - Information improves decision-making ability - Information is useful in making purchase decision - Information makes purchase decision easier - Information expedites shopping time - Information improves confidence in decision - Information reduces decision risk
Ease of use	<ul style="list-style-type: none"> - Buying books from this website is easy to do - Information is easy to understand
Content-Adequacy	<ul style="list-style-type: none"> - Website provides adequate information - Information content meets needs - Website provides sufficient information for deciding

4.2 Main Study

The final questionnaire is reproduced in appendix A and appendix C. The survey included 42 questions, 11 related to expectation measures, 11 related to disconfirmation measures, 11 related to perceived performance measures, 2 related to satisfaction measures, and 7 related to demographics.

One hundred undergraduate and graduate students from Universidad de Los Andes were included in the final sample. All of the respondents were pursuing degrees in business. The ages of the respondents ranged from 24 to 35 years old, with a mean of 25.7 years. Approximately 44% of the respondents were female and 56% male.

The most important categories of products purchased online by the respondents were: books (32%), computer and electronics (30%), airline tickets (19%), clothing (14%) and CD's / DVD's (21%). The respondents participate in different Internet activities: email (100%), shopping (13%), game playing (4%), information searches of products (51%), information searches for work or study (88%), music downloads (24%), and chat room visits (48%). Appendix E shows a participant's profile.

4.2.1 Manipulation Checks

T-tests for independent samples techniques were used in order to check the manipulations in producing the desired expectation effects and performance effects. As can be seen in Table 3 and Table 4, subjects in the high expectation condition expressed significantly higher expected performance ($p < .000$) than subjects in the low expectation

condition, and subjects in the high performance condition expressed significantly higher performance ($p < .000$) than subjects in the low performance condition. Therefore, manipulation of the expectation and performance treatments was successful.

Table 3
T-tests Expectation Manipulation
Main Survey

ITEM	Mean Difference	p-value
Buying books from this website is easy to do	2.76	0.000
Information improves decision-making ability	2.69	0.000
Information is easy to understand	2.91	0.000
Website provides adequate information	3.26	0.000
Information is useful in making purchase decision	3.61	0.000
Information makes purchase decision easier	3.31	0.000
Information expedites shopping time	2.97	0.000
Information improves confidence in decision	2.96	0.000
Information content meets needs	2.79	0.000
Information reduces decision risk	3.12	0.000
Website provides sufficient information for deciding	3.50	0.000

4.2.2 Scales Dimensionality

In order to assess the scales' dimensionality and the appropriateness of the selected variables, an exploratory factor analysis was used. To determine the number of factors to be retained two criteria were used. Hair et al. (1998) emphasizes the need for multiple decision criteria in deciding the number of components to be retained. In the scree test the point at which the curve first begins to straighten out is considered the indication of the maximum number of factors to extract (Hair et al., 1998). In addition,

factors having eigenvalues greater than 1 are considered significant (Hair et al., 1998).

Table 4
T-tests Performance Manipulation
Main Survey

ITEM	Mean Difference	p-value
Buying books from this website is easy to do	1.26	0.004
Information improves decision-making ability	1.50	0.001
Information is easy to understand	0.90	0.017
Website provides adequate information	1.52	0.000
Information is useful in making purchase decision	1.62	0.000
Information makes purchase decision easier	2.42	0.000
Information expedites shopping time	1.40	0.001
Information improves confidence in decision	1.56	0.001
Information content meets needs	1.78	0.000
Information reduces decision risk	1.76	0.000
Website provides sufficient information for deciding	1.92	0.000

The results of the component analysis for expectation, disconfirmation and performance measures are shown, respectively, in appendix F, G, H. In the three tables the Bartlett test of sphericity shows that nonzero correlations exist ($p < 0.000$) and the MSA (measure of sampling adequacy) is 0.9 that is far above the acceptable range. Hair et al. (1988) state that 0.80 or above is meritorious. The three scree tests show that two factors could be appropriate; the eigenvalue in all analyses is slightly close to 1.0 for the second factor. Therefore, two factors are retained that represent 86.1 percent of the variance for the expectation measures, 76.1 percent of the variance for the disconfirmation measures, and 81.5 percent of the variance for the performance measures.

As can be seen from the three factorial analyses, items EasyActi (buying books from this website is easy to do) and Understan (information is easy to understand) load in

a second factor. In addition, these items show the least significant differences in manipulation checks results (Table 3 and Table 4). Therefore, these items were dropped for the subsequent analysis.

In order to determine if the scales are unidimensional, a second factor analysis was used. The results of the component analysis for expectation, disconfirmation and performance measures are shown, respectively in appendix I, J, K. The KMO measure of sampling adequacy is far above the minimum (0.93, 0.92, 0.93) with a significant Bartlett test of sphericity ($p < 0.001$). One factor is retained that represents a higher percent of the variance (79.7% for expectations, 72.5% for disconfirmation, and 79.4% for performance measures). Thus, the constructs capture a high level of variance. All items load higher (above 0.8) on a single factor; therefore, all of the three scales in the model (expectations, disconfirmation, and performance) were unidimensional, showing that items included in scales represent appropriately each construct.

4.2.3 Scales Reliability

Reliability is defined as “the degree to which measures are free from error and therefore yield consistent results” (Peter, 1979, p.6) or as “an assessment of the degree of consistency between multiple measurements of a variable” (Hair et al., 1998, p.117).

Cronbach’s coefficient alpha is the most widely used measure of scale reliability. It is used as a generalized measure of the internal consistency of a multi-item scale (Peterson, 1994). The generally agreed upon lower limit for Cronbach’s alpha is 0.70, although it may decrease to 0.6 in exploratory research (Hair et al., 1998). Table 5 shows the alpha coefficients for each scale. These reliability coefficients are greater than 0.90.

Another measure to assess internal consistency is the item-to-total correlation, defined as the correlation of the item to the summated scale score. Hair et al. (1998) suggest that the item-to-total-correlation should exceed 0.50. As can be seen in appendix L, all of these correlations are above 0.73, showing a high internal consistency. Therefore, results from the Cronbach's coefficients alpha and the item-to-total correlations show that the scales used to operationalize constructs in the expectancy-disconfirmation model have a high reliability and function appropriately.

Table 5
Reliability Analysis

	Cronbach's Alpha
Expectations	0.9680
Disconfirmation	0.9521
Performance	0.9673
Satisfaction	0.9500

4.2.4 Hypotheses Tests

Hypothesis 1a

Hypothesis 1A states that subjects who have high expectations and find their expectations negatively disconfirmed (low performance) should evaluate performance higher than subjects who have low expectations and experience low performance.

Table 6 shows the mean and standard deviation of the perceived performance for subjects in the high expectation – low performance treatment versus perceived performance for subjects in the low expectation - low performance treatment. The third column of table 6 shows the statistical significance (p-value) of the difference between

means. As can be seen, eight items show significant differences in performance with high values in the high expectations condition. Therefore, hypothesis 1A is supported.

Overstatement of the manipulated expectations about the expected performance of the Website resulted in more favorable perceived performance, which is similar to Olshavsky and Miller's (1972) results. Independently of the expected performance for a product (high or low), a better perceived performance from the consumer will be attained if high expectations are established. When subjects navigated in the low performance Website (information in the Website is poor), subjects who had high expectations evaluated the perceived performance higher than subjects with low conditions.

Table 6
T-tests – Perceived performance for low-performance treatment

ITEM	Low Expectations	High Expectations	p-value
Information improves decision-making ability	4.25 (2.40)	6.38 (2.02)	0.001*
Website provides adequate information	5.29 (2.49)	7.04 (2.25)	0.012*
Information is useful in making purchase decision	5.25 (2.47)	7.65 (2.11)	0.001*
Information makes purchase decision easier	4.13 (2.02)	6.04 (2.49)	0.005*
Information expedites shopping time	5.71 (2.15)	7.00 (2.48)	0.056**
Information improves confidence in decision	4.50 (2.50)	6.42 (2.33)	0.007*
Information content meets needs	4.67 (2.39)	6.15 (2.31)	0.030*
Information reduces decision risk	4.75 (2.75)	5.77 (2.12)	0.147
Website provides sufficient information for the deciding	4.63 (2.53)	6.00 (2.38)	0.054**

* p-value < 0.05

** p-value < 0.10

Hypothesis 1b

Hypothesis 1b states that subjects who have low expectations and find their expectations positively disconfirmed (high performance) should evaluate performance lower than subjects who have high expectations and experience high performance.

Table 7 shows the mean and standard deviation of the perceived performance for subjects who navigated in the Website with richest information (high performance treatment). Column 1 shows the results for subjects with low expectations, column 2 shows the results for subjects with high expectations, and column 3 shows the statistical significance (p-value). Eight items have significant differences in performance (p-value < 0.1), showing the highest values for subjects with high expectations. Therefore, hypothesis 1b is supported. Independently, of the good performance of the Website, subjects who had high expectations evaluated the perceived performance most highly. Similar to results from hypothesis 1A, consumers tend to adjust their evaluations according to their expectations.

A summated scale was created from the nine measures of performance. Anova using the two manipulated conditions of expectations (low, high) and the two manipulated conditions for performance (low, high) as independent variables and performance (summated scale) as dependent variable was run. Anova's results are shown in appendix M. The analysis of variance showed significant effects due to expectation (p < 0.000) and performance (p < 0.000). The interaction term was not significant. Therefore, similar to Cardozo (1965) and Anderson (1973) findings, results support hypotheses 1a and 1b, and indicate that consumers use comparison standards to evaluate product or service performance, and subjects tend to assimilate performance evaluations

toward their expectations. When subjects had high expectations, they evaluated perceived performance better than subjects with low expectations.

Table 7
T-tests – Perceived performance for high-performance treatment

ITEM	Low Expectations	High Expectations	p-value
Information improves decision-making ability	6.52 (1.63)	7.20 (1.73)	0.160
Information provides adequate information	7.04 (1.67)	8.40 (1.08)	0.001*
Information is useful in making purchase decision	7.56 (1.29)	8.68 (0.80)	0.001*
Information makes purchase decision easier	7.00 (1.60)	8.08 (1.44)	0.016*
Information expedites shopping time	7.16 (1.62)	8.40 (1.41)	0.006*
Information improves confidence in decision	6.28 (1.86)	7.84 (1.43)	0.002*
Information content meets needs	6.48 (1.53)	7.96 (0.97)	0.000*
Information reduces decision risk	6.20 (1.97)	7.88 (1.33)	0.001*
Website provides sufficient information for the deciding	6.48 (1.85)	8.04 (1.64)	0.003*

* significant at $p < 0.05$

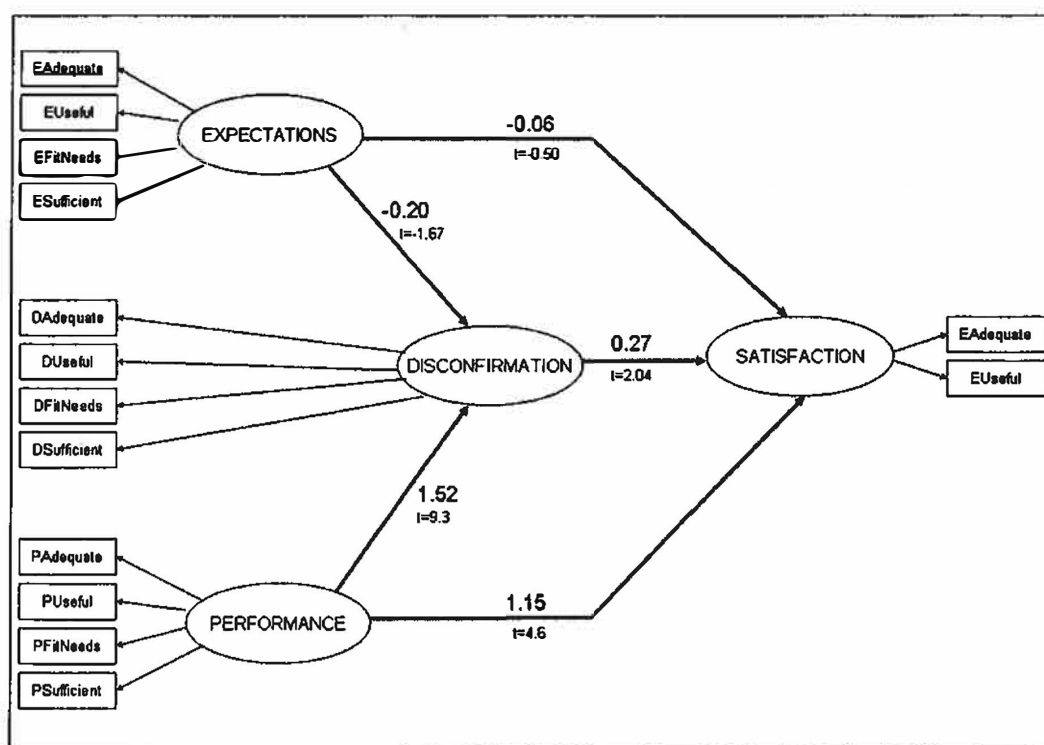
Structural equation modeling provides a straightforward method of dealing with multiple relationships simultaneously while providing statistical significance (Hair et al., 1998). To test the expectancy-disconfirmation model, structural equation modeling was used.

To find the most relevant items in each scale, results from factor analysis (appendix I, appendix J, appendix K) and item-to-total correlations (appendix L) were analyzed. Items UsefulInf (information is useful in making purchase decision), Adequacy

(website provides adequate information), FitNeeds (information content meets needs), and Sufficient (website provides sufficient information for deciding) are the items that have the highest factor loadings and the highest item-to-total correlations. The Lisrel model was run using these four items.

Figure 2 and appendix N shows the standardized estimates of the relationships among the constructs and their t-values.

Figure 2 – Lisrel Model



Hypothesis 2

Hypothesis 2 states that there is a negative relationship between expectations and disconfirmation. Results show a statistically significant negative correlation between

expectations and disconfirmation (standardized path = -0.20, $t = 1.67$). Therefore, hypothesis 2 is supported. Churchill and Suprenant found similar results, where this path has the least significant correlation. These findings contrast with Oliver (1980) who finds no correlation, but the difference with this dissertation was that Oliver did not manipulate expectations. Subjects that had higher expectations perceived the Website performing better than expected, and vice versa.

Hypothesis 3

Hypothesis 3 states that there is a positive relationship between expectations and satisfaction. Results show no statistically significant correlation between expectations and satisfaction (standardized path = -0.06, $t = -0.50$). Therefore, hypothesis 3 is not supported. Similar results are found in Spreng et al. (1996). According to these results, expectations do not directly affect satisfaction.

Hypotheses 2 and 3 show that expectations affect satisfaction only via the disconfirmation effect, and that there is no direct effect. According to hypotheses 1a, 1b, 2 and 3, expectations act as an adaptation level; expectations affect satisfaction indirectly through perceived disconfirmation (assimilation effect). Expectations manipulation did not produce a direct effect on satisfaction; therefore, the effect depended on the disconfirmation process when subjects compared expectations and perceived performance.

Hypothesis 4

Hypothesis 4 states that there is a positive relationship between performance and disconfirmation. The standardized path (1.5) and the t-student value (9.3) show a statistically significant positive correlation between performance and disconfirmation. Thus, hypothesis 4 is supported. Consumers who evaluate the performance of the Website most highly are subjects that perceive that the performance was better than expected. In addition, subjects who had the lowest evaluations of the performance, found that the performance were worse than expected.

Hypotheses 5

Hypothesis 5 states that there is a positive relationship between performance and satisfaction. There is a statistically significant positive correlation between performance and satisfaction (standardized path = 1.15, $t = 4.6$); as a consequence hypothesis 5 is supported. Similar results are found by Churchill and Suprenant (1982), and Olshvasky and Miller (1972), who manipulated performance. Accordingly, if consumers increase their perceived performance, they will be more satisfied.

According to hypotheses 4 and 5, performance influences satisfaction through two mechanisms, directly via consumer evaluation of the performance and indirectly via the disconfirmation effect. The highest coefficients in the model are the relationship between performance and disconfirmation (1.52) and the relationship between performance and satisfaction (1.15). These results point out the importance of performance in the model, when subjects perceive that the Website perform well, consumers will be satisfied.

Hypothesis 6

Hypothesis 6 states that there is a positive relationship between disconfirmation and satisfaction. There is a statistically positive correlation between disconfirmation and satisfaction (standardized path = -0.20, $t = 1.64$). Therefore, hypothesis 6 is supported. Therefore, when subjects perceived the Website performing better than expected, they were more satisfied with it and viceversa (Tse & Wilton, 1998; Churchill and Suprenant, 1982). The effect of performance on satisfaction (standardized path = 1.15) is greater than the effect of expectations (-0.06) and disconfirmation (0.27), showing that perceived performance is the most important antecedent of satisfaction.

CHAPTER 5

CONCLUSIONS

The objective of this study was to test empirically the expectancy-disconfirmation paradigm in order to discover the antecedents of satisfaction in online shopping environments. The proposed model measured the level of satisfaction with the information provided by the Web site, information that allowed the consumer to make a decision.

Satisfaction with the information provided by the Website is explained by three factors: usefulness, ease of use, and content-adequacy. Usefulness information refers to information that improves decision-making ability, is useful in making purchase decision, makes purchase decision easier, expedites shopping time, improves confidence in decision, and reduces decision risk. Ease of use is related with how easy is to understand the information and buying books from the Website. Content-Adequacy refers to how the Website provides adequate information, provides sufficient information for deciding, and how the information content meets needs.

Two hypotheses were established to test the assimilation theory. According to assimilation theory, subjects tend to assimilate performance evaluations toward their expectations. In both performance treatments (high and low) subjects with high expectations evaluated more favorably the performance than subjects with low expectations. Overstatement resulted in a more favorably perceived performance.

Independently of the performance of the Website related with the information provided, when high expectations are established consumers will evaluate the perceived performance more highly than when low expectations are defined. From a practical perspective, although business ethics direct the promoter to make realistic claims, findings of this dissertation may suggest that a little positive exaggeration in product promotion produces better consumer evaluations.

Consumers use comparison standards to evaluate the perceived performance of the Website, and they use these referents to adjust their evaluations toward their expectations. Consumers are faced with a lot of advertising and each day consumers navigate in the Web, these experiences change the expectations levels. Then, it is important for managers to understand the expectation formation process because managers can establish the level of expectations for their Websites using integrated communications.

Expectations affect satisfaction only via the disconfirmation effect, and there is no direct effect. Therefore, expectations act as an adaptation level. When practitioners want to determine how expectations affect satisfaction, it is not advisable to measure only expectations and satisfaction and calculate their correlation; the disconfirmation effect must be included in the model.

When performance, disconfirmation, and expectations are included as direct antecedents of satisfaction, performance dominates the formation of satisfaction. Performance influences satisfaction through two mechanisms: directly via perceived performance and indirectly via the disconfirmation effect. If consumers increase their perceived performance, or if they perceive the product or service perform better than

expected, they will be more satisfied. From a practical perspective, this finding suggests that there is no substitute for good quality (performance). Independently of the level of expectations, the best way to increase satisfaction judgments from the consumer, is giving them a Website that provides high quality information, that is useful to the decision making process. Marketers have to understand that the first step is to design a high quality Website, and the second step is to create the integrated marketing communications plan.

Results establish that expectations, disconfirmation, and performance are direct antecedents of satisfaction on the Web, showing similar results to findings in traditional settings. This work provides the basis to understand the satisfaction process in online environments, and provides support for extending the expectation - disconfirmation model to Consumer Behavior in online environments.

Limitations and Future Research

This experiment was limited in that expectations manipulation, web experience and satisfaction evaluations all occurred in a very short time (30 to 45 minutes). In addition, satisfaction with only one specific transaction was considered. It is useful for researchers to understand how expectations change over time because a customer learns from his or her experience. A dynamic model takes into account changes that occur when consumers change their expectations according to past experiences with the performance of the Websites.

The sample for this study consisted of undergraduate and graduate students from the Management School in a private university in Colombia. Expanding the sample to

include other segments of the population could produce a more representative sample of Internet shoppers. In addition, a larger sample would have allowed for structural equation modeling to test differences between subgroups of the sample, for example undergraduate versus graduate students. Future research could test the expectancy - disconfirmation model to find differences according to demographic or lifestyle characteristics.

This research created a simulated bookstore. Results were obtained under conditions in which the subjects navigate the Website, but did not actually purchase a book. Further research could test the expectancy – disconfirmation model under different conditions, to know if the store name, company image, or previous Internet experiences could influence consumer satisfaction's evaluations.

This dissertation used ten point scales looking for more discriminating satisfaction evaluations. The distribution of the satisfaction responses shows a positive bias (majority of consumers are satisfied), and it is negatively skewed. Peterson and Wilson (1992) establish that self-reports of customer satisfaction invariably possess distributions that are negatively skewed and exhibit a positivity bias. The implication of this problem is that researchers and practitioners must be careful when they analyze satisfaction evaluations, because when skewness is present, true relationships might be underestimated.

This research focus on the cognitive aspects of satisfaction, the expectation formation process and the comparison of performance to expectations are conscious activities. However, in traditional settings other antecedents of satisfaction have been analyzed in the marketing literature. One of these factors is emotions and how positive and negative affect influence satisfaction judgments (Oliver, 1993). This dissertation shows the relationship between cognitive factors (expectations, disconfirmation and

perceived performance) and satisfaction; future research is necessary to test the cognitive and affective antecedents of satisfaction in online settings.

Appendix A

Expectation Manipulation Booklet - Survey

INSTRUCTIONS – PART 1**INSTRUCTIONS - PART 1**

Thank you for your participation in this study. We are interested in knowing your opinions about the information that a site selling books on the Internet must have. Keep in mind that there is no correct or incorrect answer to each question. All information that you provide will be confidential and used only in a value added manner for academic purposes.

Below you will find the presentation for SOLOLIBROS.com, a new web site that will soon launch in Colombia. Please read the information in the following pages carefully.

Imagine yourself selected to serve on a committee charged with developing a marketing plan on which you will be working for the next year. To develop the plan you must conduct a research and you have decided to purchase a book on Marketing Research, which you will use as a text guide in your new activity. You have the ability to purchase this book on the Internet.

The web site will show you three books and you must select (purchase) one of them. We would like you to tell us what you expect to find on a web site selling books that would assure you that you have made a good decision.

You will initially find a description of the information that the new book-selling web site will contain. Later, you will answer a questionnaire for the purpose of determining your expectations concerning the information that will be useful in the process of purchasing a book on the Internet.

THANK YOU FOR YOUR PARTICIPATION

SoloLibros.com

SoloLibros.com is a web site designed for selling books. We would like to know what information you require when you purchase a book.


SoloLibros.com is a new concept in virtual sales in this country. In Colombia there are no sites that offer our services. There are other sites in the world where you can purchase books online; nevertheless, none of these sites provides the information that SoloLibros.com provides. Also, using other Internet sites the buyer will experience delivery delays of days or weeks and higher cost.

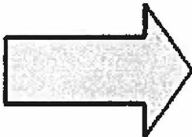
Using SoloLibros.com you have the opportunity to order your books 24 hours per day, seven days a week.

Your opinions are important in helping us to learn what information you require when you purchase a book.

RETURNS POLICY

You may return any of the products sold by SoloLibros.com within five days of delivery and we will return your purchase price. We do not accept returns if the book shows signs of wear.






SoloLibros.com

SoloLibros.com is the Internet book store located a click away

You need a book and you do not have time to go to a bookstore and spend hours looking in the stacks, comparing prices and lining up to pay



Buy your books in a few minutes

With just a click you will find:

- Authors' biographies
- The book's index
- The contents of select chapters
- The price at other booksellers
- Readers' reviews and evaluations

In 24 hours you will have your book in your home or office

www.SoloLibros.com

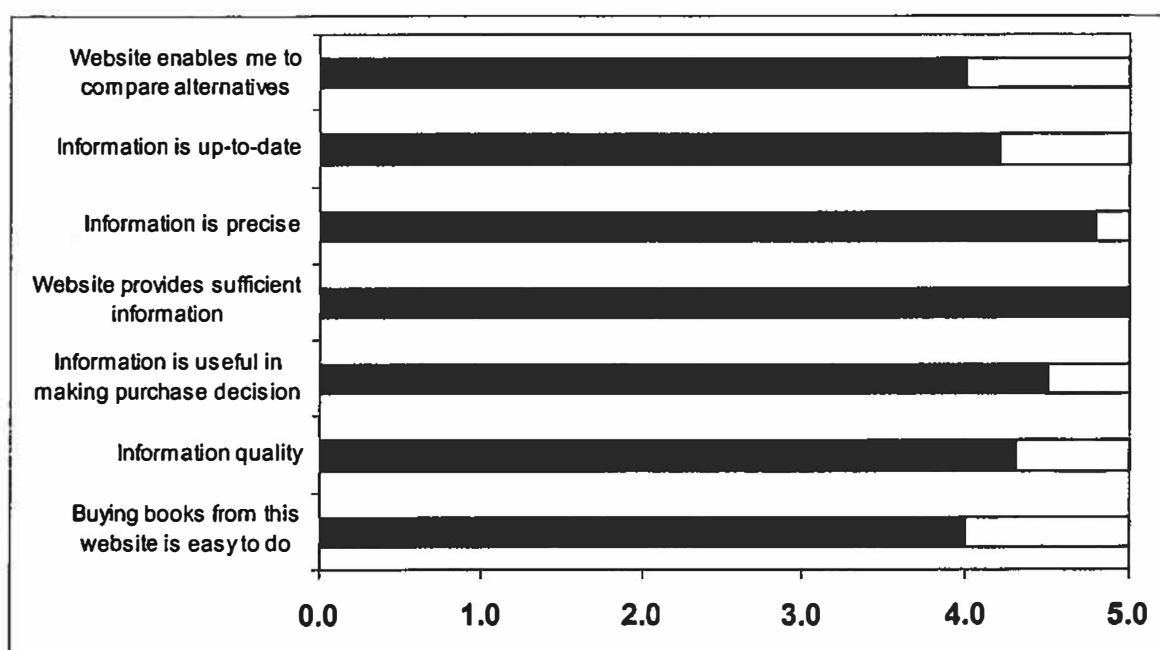
SoloLibros.com

SoloLibros.com is a web site that contains the greatest amount of information possible for a person requiring information for a buying decision. Using the SoloLibros.com web site and before buying the book, you can find:

- The authors' resume: work and academic experience, current activity, other books published, academic publications, etc.
- The book's index: summarized and in detail
- The preface (introduction), showing the book's target market, its characteristics, any reader aids, etc.
- The contents of select chapters
- The prices at SoloLibros.com compared with the price at other booksellers
- Opinions and evaluations of other persons who have read the book.
- The book's distinguishing qualities

WEB SITE EVALUATION - CONSULTANT

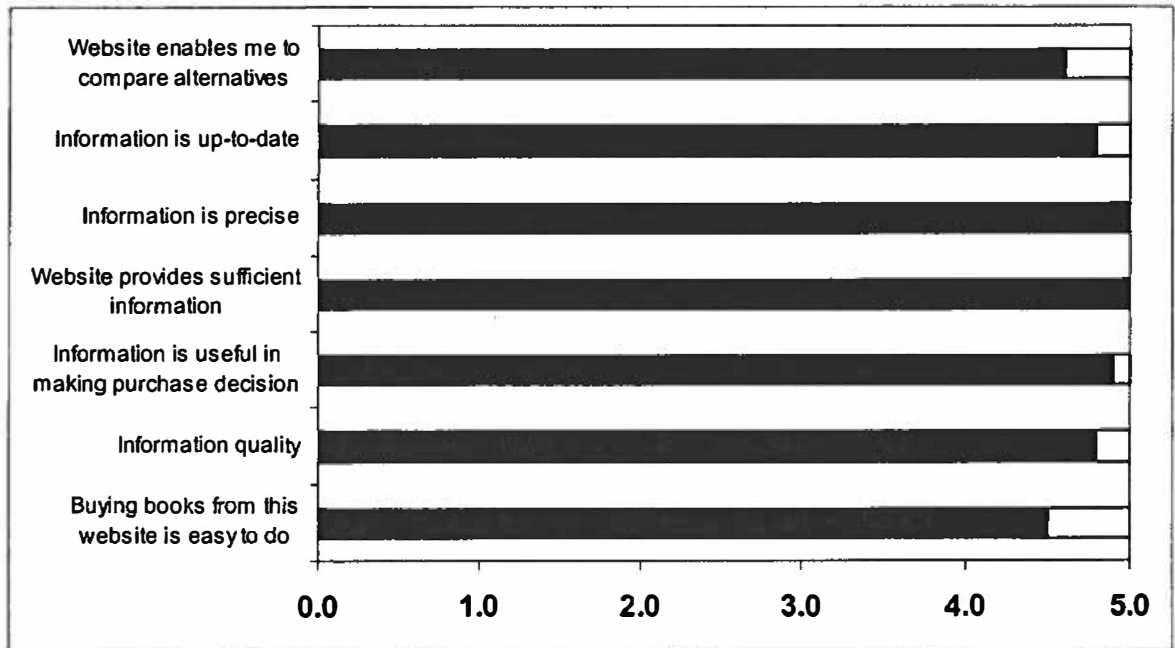
An international consultant specializing in measuring traffic and experience on web sites has evaluated the SOLOLIBROS web site. The evaluation did not take into account the site's design, only the information the web site contains. The results of the evaluation appear in the following figure: (scores above 4.5 indicates "excellent", above 4.0 "very good" and above 3.0 "acceptable").



WEB SITE EVALUATION - CONSUMER

Persons who at some time have purchased books on the Internet participated in market research. The persons surveyed saw the prototype of the web site and navigated it for 15 minutes. Afterwards each filled out a survey and answered some open questions.

Some of the survey results were as follows:



Some of the comments by the consumers surveyed were as follows:

- "I liked it better than buying at Amazon"
- "At last a web site in Colombia and I do not have to buy in the United States"
- "I believe that the information is very complete. What you find here is what you look for in a bookstore"
- "Easy to use. Because they only sell books, it is designed specifically for the purchase of books"
- "I have purchased books on Amazon and here I found more information about each book"
- "The amount of information is sufficient to be able to select a book"

SURVEY 1 - INSTRUCTIONS

Remember that you are serving on a committee that will develop a marketing plan for the coming year and you **have decided to select (purchase) a book on Marketing Research.**

SoloLibros.com is going to show you three books and you must select (purchase) one of them.

Answer the following questions relating to the **EXPECTATIONS** that you have toward buying a book at SoloLibros.com.

Please answer each question as honestly as possible. Before filling out this questionnaire closely read the information provided in the preceding pages. Based on the description and the information provided about SoloLibros.com answer the following questions:

		Not likely at all							Highly likely		
1.	Would you expect that purchasing books on this web site would be an easy activity	1	2	3	4	5	6	7	8	9	10
2.	Would you expect that the information included in this web site would improve your ability to make better book-buying decisions	1	2	3	4	5	6	7	8	9	10
3.	Would you expect that the information found on this web site would be easy to understand	1	2	3	4	5	6	7	8	9	10
4.	Would you expect that the web site would provide you with sufficient information about each book	1	2	3	4	5	6	7	8	9	10
5.	Would you expect that the information found on this web site would be useful in making a decision to select (purchase) a book	1	2	3	4	5	6	7	8	9	10
		Not likely at all							Highly likely		
6.	Would you expect that the information included in this web site would allow you to make a purchasing decision more easily	1	2	3	4	5	6	7	8	9	10
7.	Would you expect that the information found on this web site would allow you to make a decision more quickly	1	2	3	4	5	6	7	8	9	10
8.	Would you expect to be more certain of your decision because you used the information supplied by this web site	1	2	3	4	5	6	7	8	9	10
9.	Would you expect that this web site would supply information adjusted exactly to your needs	1	2	3	4	5	6	7	8	9	10
10.	Would you expect less risk of erroneously making an incorrect buying decision because of using the information supplied by this web site	1	2	3	4	5	6	7	8	9	10

- | | Not likely
at all | | | | | | | | | Highly
likely |
|--|----------------------|---|---|---|---|---|---|---|---|------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11. Would you expect that the amount of information would be sufficient to make a good buying decision | | | | | | | | | | |
| 12. If you would have to purchase a book in the future, what is the probability that you would use this site to make your purchase | | | | | | | | | | |

13. Have you made purchases on the Internet
 NO If you answered NO go to question 17
 YES

14. How many times did you make purchases online during the past year? _____

15. What products / services have you purchased on the Internet?

16. Of the following Internet activities, which do you engage in most frequently

- | | |
|--|---|
| <input type="checkbox"/> Email | <input type="checkbox"/> Playing games |
| <input type="checkbox"/> Looking for product information | <input type="checkbox"/> Downloading music |
| <input type="checkbox"/> Chat | <input type="checkbox"/> Looking for study / work information |
| <input type="checkbox"/> Purchasing products / services | <input type="checkbox"/> Reading news / dailies / magazines |
| | <input type="checkbox"/> Other _____ |

17. How often do you use Internet?

- | | |
|--|---|
| <input type="checkbox"/> Daily | <input type="checkbox"/> Between 1 and 2 days per week |
| <input type="checkbox"/> Between 5 and 6 days per week | <input type="checkbox"/> Between 1 and 2 days per month |
| <input type="checkbox"/> Between 3 and 4 days per week | <input type="checkbox"/> Less than once per month |

- | | Novice | | | | | | | | | Expert |
|---|--------|---|---|---|---|---|---|---|---|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 18. How would you rate your experience with Internet? | | | | | | | | | | |

Please tell us about yourself

19. Gender: Female
 Male

20. What is your age? _____ (years)
21. Education level:
- 1 Undergraduate
 - 2 Postgraduate

Thank you very much for taking the time to complete this survey

Expectation Manipulation Booklet – Survey

Spanish version

INSTRUCCIONES - PARTE 1

Gracias por su participación en este estudio. Estamos interesados en conocer sus opiniones sobre la información que debe tener un sitio de venta de libros en Internet. Tenga en cuenta que no existe respuesta correcta o incorrecta a cada pregunta. Toda la información que usted suministre será confidencial y será utilizada únicamente de manera agregada con fines académicos.

A continuación usted encontrará la presentación de SoloLibros.com, un nuevo sitio web que se lanzará en Colombia próximamente. Por favor, lea cuidadosamente la información que se le presenta en las páginas siguientes.

Suponga que usted ha sido designado en un comité que va a desarrollar el plan de mercadeo de la empresa en la cual usted trabaja para el próximo año. Para desarrollar el plan deben realizar una Investigación y usted ha decidido comprar un libro de Investigación de Mercados, el cual va a utilizar como texto guía en su nueva actividad. Usted tiene la posibilidad de realizar la compra del libro por Internet.

El sitio web le va a mostrar tres libros y usted debe seleccionar (comprar) uno de ellos. Queremos que nos cuente que esperaría encontrar de un sitio web de venta de libros, para que usted se sienta seguro de haber tomado una buena decisión.

Inicialmente, usted encontrará una descripción de la información que contendrá el nuevo sitio web de venta de libros. Posteriormente, se le presentará un cuestionario con el fin de conocer sus expectativas acerca de la información que le será útil en el proceso de compra de un libro en Internet.

GRACIAS POR SU PARTICIPACION

SoloLibros.com

SoloLibros.com está diseñando un sitio web para venta de libros. Nos gustaría conocer que información usted necesita cuando va a comprar un libro.


SoloLibros.com es un nuevo concepto de venta virtual en el país. En Colombia no existen sitios que ofrezcan nuestros servicios. Existen otros sitios en el mundo donde usted puede comprar libros virtualmente; sin embargo, ninguno de estos sitios le suministra la información que le da SoloLibros.com. Además, utilizando otros sitios de Internet sus pedidos se le demoran varios días o semanas, a un costo superior.

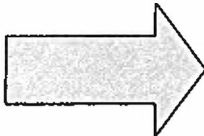
Usando SoloLibros.com usted tiene la oportunidad de ordenar sus libros durante las 24 horas del día, siete días a la semana.

Sus opiniones son importantes en ayudarnos a conocer la información necesaria para tomar una buena decisión cuando usted compre un libro.

POLITICA DE DEVOLUCIONES

Usted puede devolver alguno de los productos vendidos por SoloLibros.com dentro de los cinco días siguientes a la fecha de entrega y nosotros le devolveremos el valor pagado. No aceptamos devoluciones si el libro presenta señales de uso.






SoloLibros.com

ES LA SOLUCION

SoloLibros.com es la tienda de libros en Internet, ubicada a un click de distancia

Necesita un libro y no tiene tiempo para ir a una librería y gastar horas buscando en las estanterías, comparando precios y haciendo fila para pagar



Compre sus libros en pocos minutos

De un click y conozca:

- La biografía de los autores
- El índice del libro
- El contenido de algunos capítulos
- Los precios de otras librerías
- Las revisiones y evaluaciones de los lectores

En 24 horas tendrá su libro en su casa o en su oficina

www.SoloLibros.com

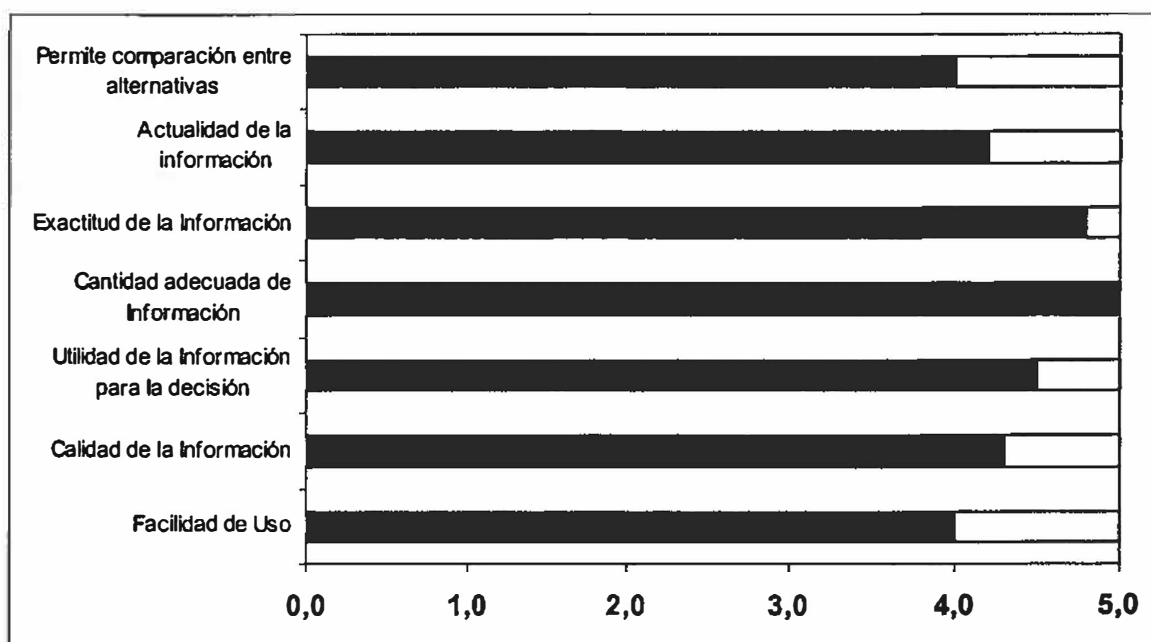
SoloLibros.com

SoloLibros.com es un sitio web que contiene la mayor cantidad de información posible para que una persona tenga todos los elementos necesarios para poder tomar la mejor decisión de compra. Usando el sitio web de SoloLibros.com y antes de comprar el libro, usted podrá conocer:

- La hoja de vida de los autores: experiencia laboral y académica, actividad actual, nombres de otros libros que ha publicado, publicaciones académicas que ha realizado, etc.
- El índice del libro: resumido y en detalle
- El prefacio (introducción), mostrando cuál es el público objetivo del libro, las características del libro, las ayudas, etc.
- El contenido de algunos de los capítulos
- El precio de SoloLibros.com comparado con los precios de otras librerías
- Opiniones y evaluaciones de otras personas que han leído el libro
- Los aspectos diferenciadores del libro

EVALUACION DEL SITIO WEB - CONSULTOR

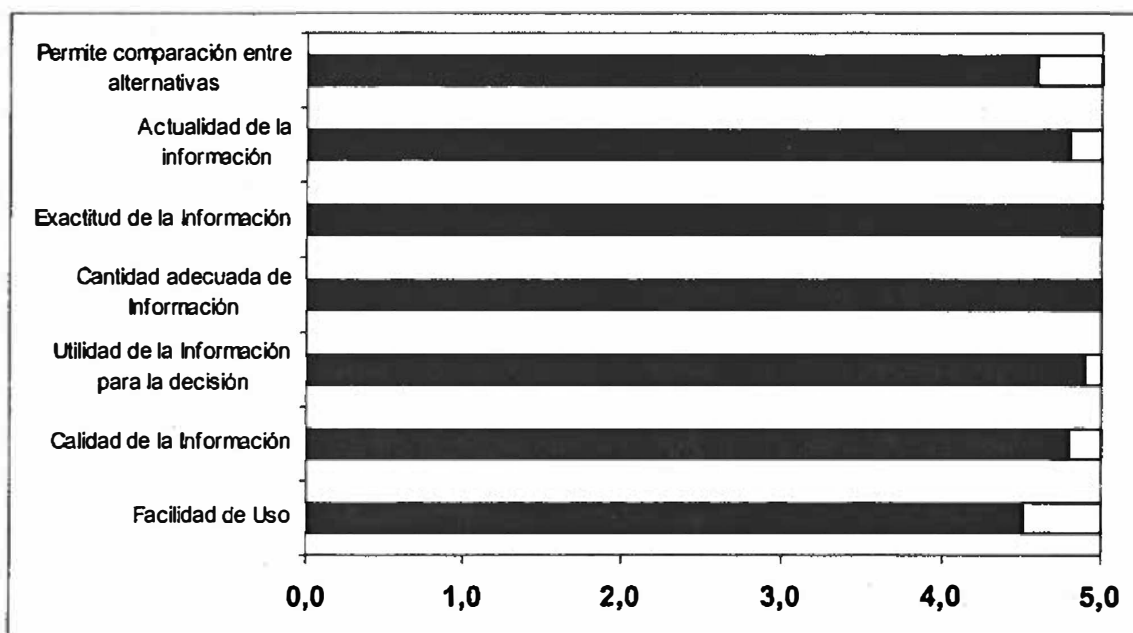
Una firma de consultoría internacional especializada en medición de tráfico y experiencias en sitios web ha evaluado el sitio web de SoloLibros.com. La evaluación no tuvo en cuenta el diseño del sitio, únicamente tiene en cuenta la información que contiene el sitio web. En la gráfica siguiente aparecen los resultados de la evaluación: (puntajes mayores de 4.5 indican "excelente", por encima de 4.0 "muy bueno" y superiores a 3.0 "aceptable").



EVALUACION DEL SITIO WEB - CONSUMIDOR

Se realizó una investigación de mercados con personas que alguna vez han comprado libros por Internet. A las personas encuestadas se les mostró el prototipo del sitio web y se les dejó que navegaran por 15 minutos. Después se les pidió llenar una encuesta y se les hicieron algunas preguntas abiertas.

Algunos de los resultados de las encuestas son los siguientes:



Algunos de los comentarios de los consumidores encuestados son los siguientes:

- "Me gustó más que comprar en Amazon"
- "Por fin un sitio web en Colombia y no tener que comprar en Estados Unidos"
- "Nada que enviarle a Amazon.com o a Barnes&Noble.com"
- "Creo que la información es muy completa. Lo que uno encuentra aquí es lo que uno mira de un libro cuando va a una librería"
- "Fácil de usar. Como sólo venden libros, está diseñado específicamente para compra de libros"
- "Yo he comprado libros en Amazon y aquí encontré más información sobre cada libro"
- "La cantidad de información es adecuada para una poder seleccionar un libro"

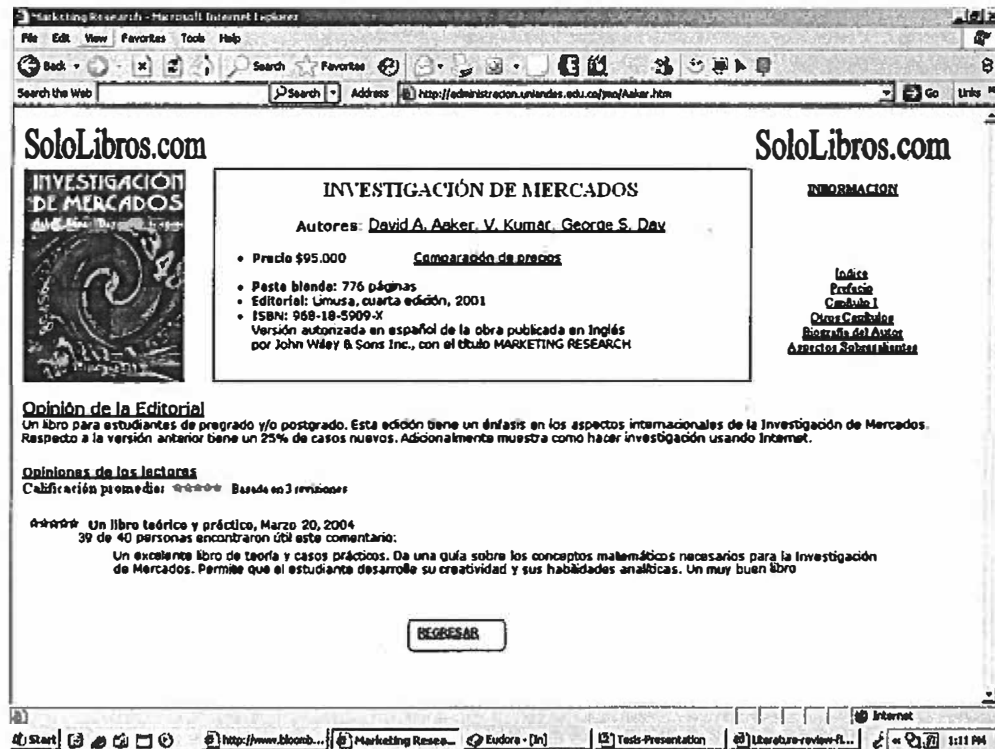
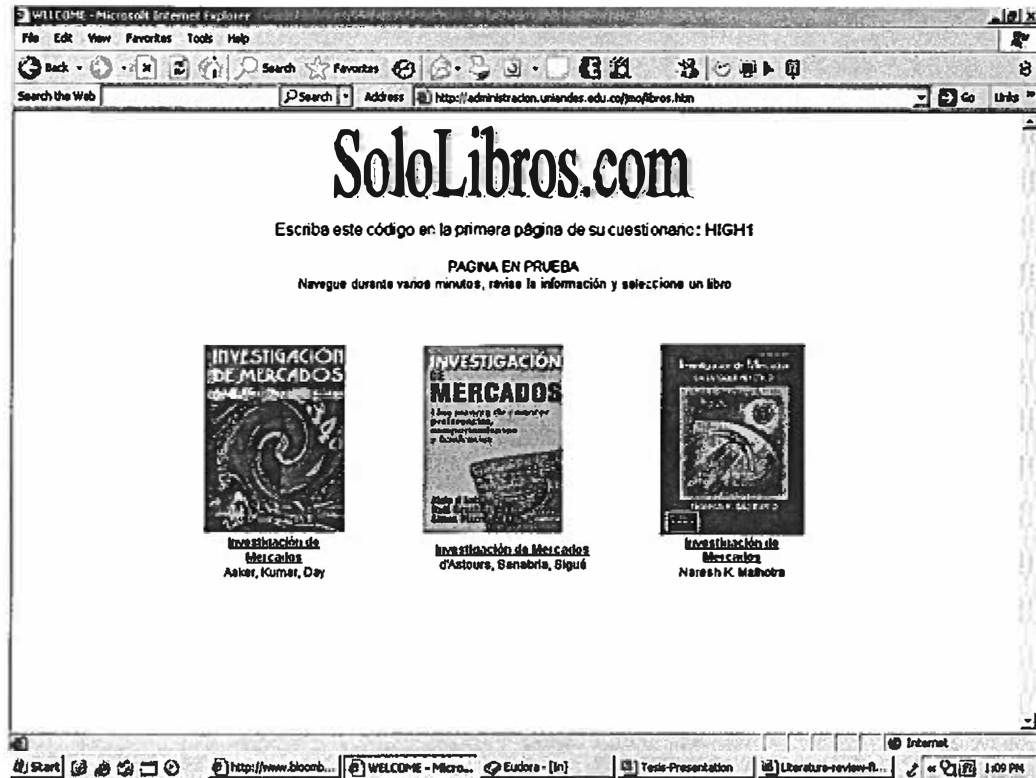
20. Cuál es su edad? _____ (años)

21. Nivel Educativo actual: Pregrado
 Postgrado

Gracias por disponer de su tiempo para diligenciar este cuestionario

Appendix B

Web Site




Marketing Research - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites

Search the Web Search Address http://administracion.unirandes.edu.co/jmo/Aaker-LOW.htm Go Links

SoloLibros.com



INVESTIGACIÓN DE MERCADOS

Autores: David A. Aaker, V. Kumar, George S. Day

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- Editorial: Limusa, cuarta edición, 2001
- ISBN: 968-18-5909-X

INFORMACION

- [Índice](#)
- [Prefacio](#)
- [Contenido](#)
- [Biografía del Autor](#)

REGRESAR

Done

Start http://www.bloorb... Marketing Resea... Microsoft PowerPa... JMOFPA-TULANE 4:58 PM

Appendix C

Survey 2 – Disconfirmation and Performance Measurement

INSTRUCCIONES - PARTE 2

Remember that you are serving on a committee that will develop a marketing plan for the coming year and you have decided to select (purchase) a book on Marketing Research.

SoloLibros.com is going to show you three books and you must select (purchase) one of them.

At the end you will provide your name. This information is only to know who responded to the questionnaire and to be able to assign a grade in the course (the grade will be acknowledged only if the questionnaire shows no inconsistencies).

Next you will enter the SoloLibros.com web site. **You must navigate through the site keeping in mind that the objective is to select (purchase) a book on Marketing Research.** Take the time necessary to read the information the web site supplies and finally **select a book.** When you finish navigating the web sites go on to the next page, where you will provide the name of the book you selected and the reason you selected it. Finally you will answer some questions.

You will find the prototype (first version) of the web site on <http://administracion.uniandes.edu.co/jmo/compras.htm>. We would like you to evaluate whether the information you found allowed you to make a good choice.

<http://administracion.uniandes.edu.co/jmo/compras.htm>

THAK YOU FOR YOUR PARTICIPATION

SURVEY 2

Name of the book selected

Author of the book selected

Tell us why you chose this book?

SURVEY 3

We would like you to tell us if the information found on the web site **met or did not meet the expectations** that you had before navigating in SoloLibros.com.

	Much worse than expected					Much better than expected				
1. To select (purchase) books on this site was easy to do	1	2	3	4	5	6	7	8	9	10
2. The information on this web site improved your ability to make better book-buying decisions	1	2	3	4	5	6	7	8	9	10
3. The information found was easy to understand	1	2	3	4	5	6	7	8	9	10
4. The web site supplied sufficient information	1	2	3	4	5	6	7	8	9	10
5. The information found was useful in choosing a book	1	2	3	4	5	6	7	8	9	10
6. The information from the web site allowed you to make a purchase decision more easily than if you had gone to a bookstore	1	2	3	4	5	6	7	8	9	10

	Much worse than expected					Much better than expected				
7. The information found on this web site allowed you to make a decision more rapidly than in a bookstore	1	2	3	4	5	6	7	8	9	10
8. Having used the information on the web site, you are sure of having made a good decision	1	2	3	4	5	6	7	8	9	10
9. The information exactly suits your needs	1	2	3	4	5	6	7	8	9	10
10. By using the web site information, you reduced the risk of having made a mistaken decision	1	2	3	4	5	6	7	8	9	10
11. The amount of information was sufficient for making a good decision	1	2	3	4	5	6	7	8	9	10

SURVEY 4

Based on the process of searching for information on SoloLibros.com and on the experience of selecting (purchasing) a book, we would like you to tell us **how the web site performed**, answering whether you agree or disagree with the following statements:

	Strongly Disagree					Strongly Agree				
1. To select (purchase) books on this site was easy to do	1	2	3	4	5	6	7	8	9	10
2. The information on this web site improved your ability to make better book-buying decisions	1	2	3	4	5	6	7	8	9	10
3. The information found was easy to understand	1	2	3	4	5	6	7	8	9	10
4. The web site supplied sufficient information	1	2	3	4	5	6	7	8	9	10
5. The information found was useful in choosing a book	1	2	3	4	5	6	7	8	9	10
6. The information from the web site allowed you to make a purchase decision more easily than if you had gone to a bookstore	1	2	3	4	5	6	7	8	9	10

	Strongly Disagree					Strongly Agree				
7. The information found on this web site allowed you to make a decision more rapidly than in a bookstore	1	2	3	4	5	6	7	8	9	10
8. Having used the information on the web site, you are sure of having made a good decision	1	2	3	4	5	6	7	8	9	10
9. The information exactly suits your needs	1	2	3	4	5	6	7	8	9	10
10. By using the web site information, you reduced the risk of having made a mistaken decision	1	2	3	4	5	6	7	8	9	10
11. The amount of information was sufficient for making a good decision	1	2	3	4	5	6	7	8	9	10

	Not likely at all					Highly likely				
12. If you had to purchase a book in the future, how likely is it that you would use this site to make your purchase?	1	2	3	4	5	6	7	8	9	10

Based only on the information provided on the SoloLibros.com web site, tell us what your level of satisfaction is

	Very Dissatisfied							Completely Satisfied		
	1	2	3	4	5	6	7	8	9	10
13. After using the SoloLibros.com web site, the information that you obtained made you feel										

	Very Dissatisfied							Completely Satisfied		
	1	2	3	4	5	6	7	8	9	10
14. After having used the information on the SoloLibros.com web site, you feel (unsatisfied/satisfied) with the decision made										

Gracias por disponer de su tiempo para diligenciar este cuestionario

Survey 2 – Disconfirmation and Performance Measurement

Spanish version

INSTRUCCIONES - PARTE 2

Recuerde que usted ha sido designado en un comité que va a formular el plan de mercadeo para la empresa en la cual usted trabaja. Para desarrollar este plan deben realizar una Investigación y usted **ha decidido comprar un libro de Investigación de Mercados**. Usted tiene la posibilidad de realizar la compra del libro por Internet.

El sitio web le va a mostrar tres libros y usted debe seleccionar (comprar) uno de ellos. Queremos que nos cuente que información esperaba encontrar en un sitio web de venta de libros, para que usted se sienta seguro de haber tomado una buena decisión.

Al final se le preguntará por su nombre. Esta información es únicamente para conocer quienes respondieron el cuestionario y poder asignar una nota en el curso (la nota se reconocerá siempre y cuando el cuestionario no presente inconsistencias).

A continuación usted va ingresar al sitio web de SoloLibros.com. **Usted debe navegar por el sitio web teniendo en mente que el objetivo es escoger (comprar) un libro de Investigación de Mercados**. Tómese el tiempo necesario para leer la información que le suministra el sitio web y finalmente **escoja un libro**. Cuando termine de navegar en el sitio web pase a la página siguiente, donde se le pedirá el nombre del libro que seleccionó y se le preguntará el porque de su elección. Finalmente se le harán algunas preguntas.

Usted va a encontrar un prototipo (primera versión) del sitio web en la dirección **<http://administracion.uniandes.edu.co/jmo/compras.htm>** Queremos que evalúe si la información encontrada le permitió hacer una buena elección.

<http://administracion.uniandes.edu.co/jmo/compras.htm>

GRACIAS POR SU PARTICIPACION

CUESTIONARIO 2

Nombre del libro seleccionado

Autor del libro seleccionado

Cuéntenos porqué escogió este libro?

CUESTIONARIO 3

Queremos que nos cuente si la información encontrada en el sitio web **cumplió o no con las expectativas** que usted tenía antes de comenzar a navegar en SoloLibros.com.

	Muy Inferior a las Expectativas					Muy Superior a las Expectativas				
1. Escoger (comprar) libros en este sitio web fue una actividad fácil de realizar	1	2	3	4	5	6	7	8	9	10
2. La información de este sitio web mejoró su habilidad de tomar mejores decisiones al comprar un libro	1	2	3	4	5	6	7	8	9	10
3. La información encontrada fue fácil de entender	1	2	3	4	5	6	7	8	9	10
4. El sitio web le suministró información adecuada	1	2	3	4	5	6	7	8	9	10
5. La información encontrada le fue útil al elegir un libro	1	2	3	4	5	6	7	8	9	10
6. La información del sitio web le permitió tomar una decisión de compra más fácilmente que si hubiera ido a una librería	1	2	3	4	5	6	7	8	9	10

	Muy Inferior a las Expectativas					Muy Superior a las Expectativas				
7. La información encontrada en este sitio web le permitió tomar una decisión más rápidamente que en una librería	1	2	3	4	5	6	7	8	9	10
8. Al haber usado la información del sitio web, usted está seguro de haber tomado una buena decisión	1	2	3	4	5	6	7	8	9	10
9. La información se ajustó exactamente a sus necesidades	1	2	3	4	5	6	7	8	9	10
10. Al usar la información del sitio web, usted disminuyó el riesgo de haber tomado una decisión equivocada	1	2	3	4	5	6	7	8	9	10
11. La cantidad de información fue suficiente para tomar una buena decisión	1	2	3	4	5	6	7	8	9	10

CUESTIONARIO 4

Basado en el proceso de búsqueda de información en SoloLibros.com y en la experiencia de seleccionar (comprar) un libro, queremos que nos cuente **como fue el desempeño del sitio web**, respondiendo si está de acuerdo o no con las siguientes afirmaciones:

	Totalmente en Desacuerdo					Totalmente de Acuerdo				
	1	2	3	4	5	6	7	8	9	10
1. Escoger (comprar) libros en este sitio web fue una actividad fácil de realizar	1	2	3	4	5	6	7	8	9	10
2. La información de este sitio web mejoró su habilidad de tomar mejores decisiones al comprar un libro	1	2	3	4	5	6	7	8	9	10
3. La información encontrada fue fácil de entender	1	2	3	4	5	6	7	8	9	10
4. El sitio web le suministró información adecuada	1	2	3	4	5	6	7	8	9	10
5. La información encontrada le fue útil al elegir un libro	1	2	3	4	5	6	7	8	9	10
6. La información del sitio web le permitió tomar una decisión de compra más fácilmente que si hubiera ido a una librería	1	2	3	4	5	6	7	8	9	10
	Totalmente en Desacuerdo					Totalmente de Acuerdo				
	1	2	3	4	5	6	7	8	9	10
7. La información encontrada en este sitio web le permitió tomar una decisión más rápidamente que en una librería	1	2	3	4	5	6	7	8	9	10
8. Al haber usado la información del sitio web, usted está seguro de haber tomado una buena decisión	1	2	3	4	5	6	7	8	9	10
9. La información se ajustó exactamente a sus necesidades	1	2	3	4	5	6	7	8	9	10
10. Al usar la información del sitio web, usted disminuyó el riesgo de haber tomado una decisión equivocada	1	2	3	4	5	6	7	8	9	10
11. La cantidad de información fue suficiente para tomar una buena decisión	1	2	3	4	5	6	7	8	9	10
	Poco Probable					Altamente Probable				
	1	2	3	4	5	6	7	8	9	10
12. Si usted tuviera que comprar un libro en el futuro, que tan probable es que usted acuda a este sitio para realizar su compra	1	2	3	4	5	6	7	8	9	10

Basado únicamente en la información que le suministró el sitio web de SoloLibros.com, cuéntenos cuál es su nivel de satisfacción

	Totalmente Insatisfecho							Totalmente Satisfecho		
	1	2	3	4	5	6	7	8	9	10
13. Después de usar el sitio web de SoloLibros.com, la información que usted obtuvo lo hizo sentir										

	Totalmente Insatisfecho							Totalmente Satisfecho		
	1	2	3	4	5	6	7	8	9	10
14. Después de haber utilizado la información del sitio web de SoloLibros.com, usted se siente (insatisfecho/satisfecho) con la decisión tomada										

Thank you very much for taking the time to complete this survey

Appendix D

T-tests - Expectations manipulation

ATTRIBUTE	p-value
Buying books from this website is easy to do	0.002
Information improves decision-making ability	0.043
Information is easy to understand	0.002
Website provides adequate information	0.001
Information is useful in making purchase decision	0.021
Website enables one to compare alternatives	0.523
Website provides sufficient information for the books	0.053
Information makes purchase decision easier	0.012
Information is easy to read	0.037
Information is precise	0.071
Information expedites shopping time	0.019
Information improves confidence in decision	0.037
Information is up-to-date	0.097
Information content meets needs	0.204
Information reduces decision risk	0.097
Website provides sufficient information for deciding	
Compared to retail store, searching for information on this website take less time	0.213
Compared to retail store, buying process is easier	0.831
Compared to retail store, price for the book bought from this website is less	0.398

Appendix E

Profile respondents

Male	44%
Female	56%
Age (average)	25.77 years
Internet experience (average)	7.89 (1 :no experience 10 :extremely experienced)
Have bought online	57%
Books	32%
Electronics, computers	30%
Air tickets	19%
Cd's – Dvd's	21%
Clothing	14%
Activities	% of individuals who Reported participation
Email	100%
Information search	51%
Chat	48%
Purchase	13%
Play games	4%
Download music	24%
Information for work or study	88%
Read news	65%
Internet Usage	
7 days	84%
5 – 6 days	9%
4 - 5 days	6%
2 – 3 days	1%
1 day	0%

Appendix F

Factor Analysis - Expectation scale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.940
Bartlett's Test of Sphericity	Approx. Chi-Square	1449.965
	df	55
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.603	78.212	78.212	8.603	78.212	78.212	4.759	43.264	43.264
2	.873	7.938	86.151	.873	7.938	86.151	4.718	42.887	86.151
3	.323	2.933	89.084						
4	.266	2.416	91.500						
5	.253	2.302	93.803						
6	.197	1.789	95.592						
7	.131	1.190	96.782						
8	.124	1.129	97.911						
9	.097	.880	98.790						
10	.078	.709	99.499						
11	.055	.501	100.000						

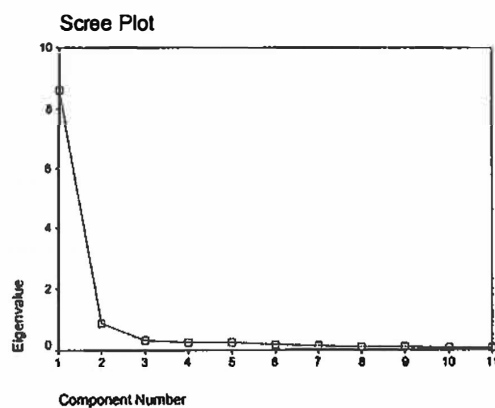
Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component	
	1	2
EEasyActi	.799	.439
EBettDeci	.307	.829
EUnderstan	.894	.314
EAdequate	.873	.388
EUsefullnf	.839	.456
EEasyDeci	.753	.577
EQuicDeci	.445	.796
ECondiDeci	.466	.787
EFitNeeds	.383	.810
ERiskDeci	.403	.835
ESufficient	.686	.663

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.



Appendix G

Factor Analysis - Disconfirmation scale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.924
Bartlett's Test of Sphericity	Approx. Chi-Square	981.458
	df	55
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.530	68.456	68.456	7.530	68.456	68.456	4.817	43.787	43.787
2	.845	7.684	76.141	.845	7.684	76.141	3.559	32.353	76.141
3	.539	4.898	81.039						
4	.482	4.384	85.423						
5	.366	3.329	88.752						
6	.357	3.244	91.996						
7	.249	2.266	94.262						
8	.199	1.813	96.075						
9	.169	1.532	97.607						
10	.148	1.345	98.953						
11	.115	1.047	100.000						

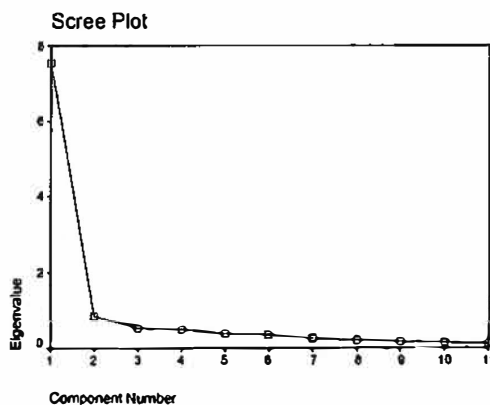
Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component	
	1	2
DEasyActi	.292	.837
DBettDeci	.687	.455
DUnderstan	.281	.785
DAdequate	.438	.811
DUsefulInf	.621	.616
DEasyDeci	.846	.287
DQuicDecl	.661	.419
DCondiDecl	.822	.348
DFitNeeds	.761	.465
DRiskDecl	.865	.254
DSufficient	.667	.582

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.



Appendix H

Factor Analysis - Performance scale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.936
Bartlett's Test of Sphericity	Approx. Chi-Square	1176.070
	df	55
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.146	74.057	74.057	8.146	74.057	74.057	6.078	55.257	55.257
2	.821	7.467	81.524	.821	7.467	81.524	2.889	26.267	81.524
3	.409	3.721	85.245						
4	.352	3.204	88.449						
5	.271	2.459	90.909						
6	.261	2.377	93.286						
7	.212	1.924	95.209						
8	.167	1.514	96.724						
9	.151	1.375	98.099						
10	.116	1.051	99.149						
11	.094	.851	100.000						

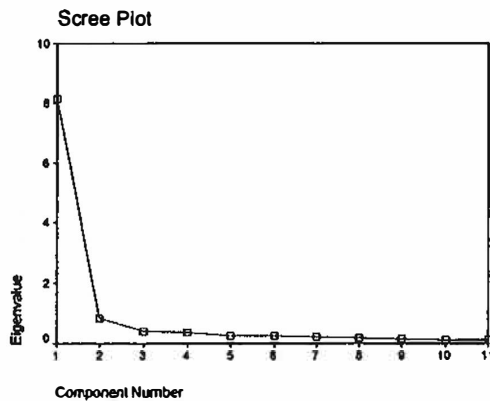
Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component	
	1	2
PEasyActi	.299	.889
PBetDeci	.812	.290
PUnderstan	.361	.849
PAdequate	.735	.553
PUsefullnf	.762	.473
PEasyDeci	.845	.275
PQuicDeci	.793	.368
PConfiDeci	.843	.351
PFitNeeds	.806	.423
PRiskDeci	.875	.260
PSufficient	.781	.428

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.



Appendix I

Factorial Analysis - Expectation scale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.937
Bartlett's Test of Sphericity	Approx. Chi-Square	1136.879
	df	36
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.175	79.721	79.721	7.175	79.721	79.721
2	.649	7.216	86.937			
3	.320	3.554	90.491			
4	.265	2.944	93.435			
5	.192	2.136	95.571			
6	.131	1.454	97.025			
7	.117	1.303	98.328			
8	.085	.944	99.272			
9	.065	.728	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component
	1
EBettDeci	.827
EAdequate	.866
EUsefullnf	.898
EEasyDeci	.931
EQuicDeci	.892
ECondiDeci	.901
EFitNeeds	.864
ERiskDeci	.895
ESufficient	.955

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Appendix J

Factorial Analysis - Disconfirmation scale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.924
Bartlett's Test of Sphericity	Approx. Chi-Square	814.364
	df	36
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.532	72.577	72.577	6.532	72.577	72.577
2	.582	6.465	79.042			
3	.476	5.284	84.326			
4	.423	4.702	89.029			
5	.285	3.165	92.194			
6	.225	2.495	94.689			
7	.185	2.053	96.743			
8	.162	1.801	98.544			
9	.131	1.456	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component
	1
DBettDeci	.827
DAdequate	.825
DUsefulInf	.871
DEasyDeci	.853
DQuicDeci	.782
DCondiDeci	.870
DFitNeeds	.893
DRiskDeci	.852
DSufficient	.887

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Appendix K

Factor Analysis - Performance scale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.937
Bartlett's Test of Sphericity	Approx. Chi-Square	1015.817
	df	36
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.150	79.440	79.440	7.150	79.440	79.440
2	.428	4.756	84.196			
3	.363	4.034	88.230			
4	.279	3.100	91.329			
5	.226	2.510	93.839			
6	.184	2.048	95.887			
7	.152	1.688	97.575			
8	.119	1.327	98.902			
9	.099	1.098	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component
	1
PBettDeci	.855
PAdequate	.908
PUsefullnf	.897
PEasyDeci	.876
PQuicDeci	.873
PConfiDeci	.909
PFitNeeds	.914
PRiskDeci	.896
PSufficient	.893

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Appendix L**Item-to-Total Correlations**

Items	Item-to-total correlation		
HabMejorDec	0.784	0.778	0.817
InformAdec	0.829	0.774	0.879
InformUtil	0.868	0.831	0.867
DecFacil	0.910	0.812	0.842
DecRapida	0.862	0.730	0.839
DecSeguro	0.874	0.832	0.883
InfNecesidad	0.829	0.858	0.888
DecRiesgo	0.865	0.812	0.868
InfSufDec	0.940	0.849	0.862

Appendix M

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
EXPECTATION	1	LOW	49
	2	HIGH	51
PERFORMANCE	1	LOW	50
	2	HIGH	50

Tests of Between-Subjects Effects

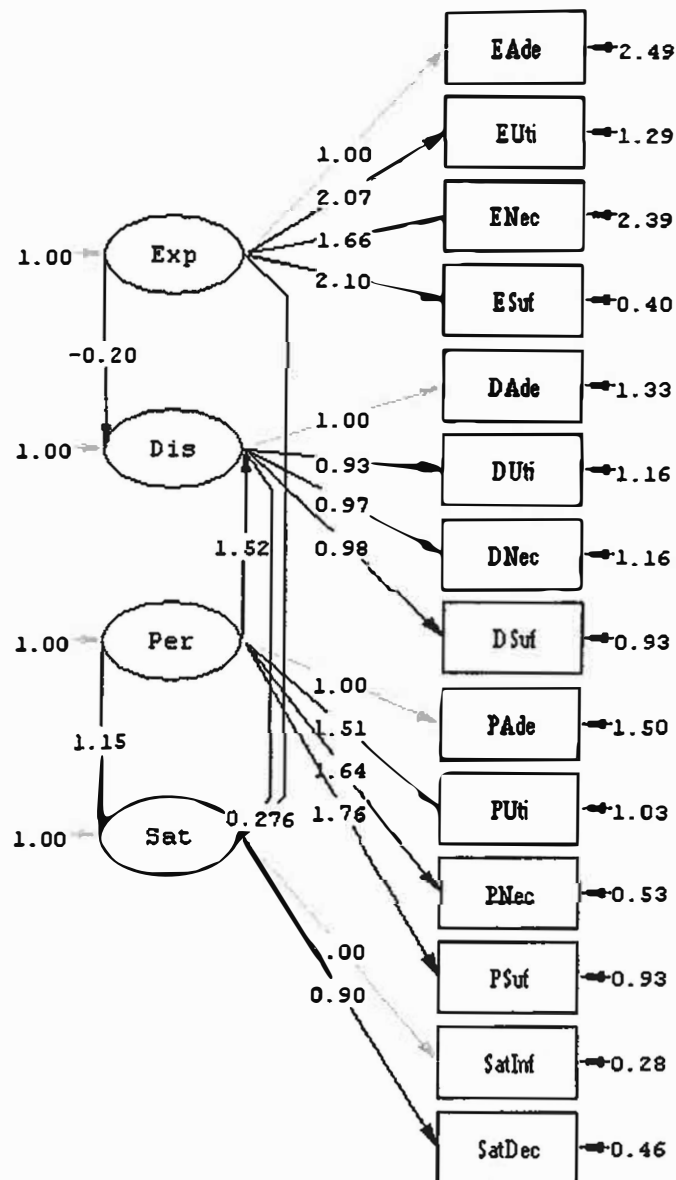
Dependent Variable: PerfAverage

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	131.345 ^a	3	43.782	15.228	.000
Intercept	4251.554	1	4251.554	1478.730	.000
EXPECTAT	56.434	1	56.434	19.628	.000
PERFORMA	76.850	1	76.850	26.729	.000
EXPECTAT * PERFOR	.963	1	.963	.335	.564
Error	276.013	96	2.875		
Total	4684.519	100			
Corrected Total	407.359	99			

a. R Squared = .322 (Adjusted R Squared = .301)

Appendix N

Lisrel Model



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Biography

Jose Miguel Ospina graduated as a System Information Engineer from Universidad de Los Andes (Bogotá, Colombia). He obtained an MBA from Universidad de Los Andes and a Ph.D. in Business from Tulane University (New Orleans, USA). He is currently a professor of Marketing at Universidad de Los Andes. His research areas of interest are Consumer Behavior and Marketing for Low Income Consumers.