

## Relationship between Equity and e-Satisfaction

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### 〈Abstract〉

In Internet age, traditional transaction concepts are being examined in new perspectives. Electronic commerce, as a new transaction paradigm, is being paid attention to reexamine traditional marketing theories. In this study, equity is adapted to electronic commerce. We add Navigational Equity to existing equity concept: Payment and Service (Huppertz et al 1978). The research model of this study consisted of three major constructs such as equity, normative comparison of equity and consumer satisfaction in electronic commerce. Additionally, the environments of Internet navigation, which include system quality, easy for use, social pressure, playful aspects, and security check, etc. were analyzed. The propositions were drawn from the research model of this study. These propositions will be used to generate hypotheses constructing simultaneous equation model. More empirical study of future is expected.

### I. Introduction

The virtuous web cycle leads to a rapid growth of consumer access, usage, and content online. Whether the variable is the size of the network, users on the network, or network activity, the last years have seen phenomenally fast growth. According to KISDI, between January 1999 and January 2000, the sales of e-commerce in Korea increased from 2,464 billion won to 11,398 billion won in B2C, and from 1,176 billion won to 3,076 billion won in B2B.

The information technology has changed our lives completely. Information processing and communication technologies have been developed rapidly. These phenomena have made consumers shopping behavior more convenient through Internet shopping. The electronic commercial transaction sites have flourished since the arrival of IT age.

In Internet age, traditional transaction concepts are being examined in new

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perspectives. Electronic commerce, as a new transaction paradigm, is being paid attention to reexamine traditional marketing theories.

In Off-line settings, the concept of consumer satisfaction occupies a central position in Marketing thought and practice. In marketing literatures, especially consumer satisfaction research stream, equity is used as a key construct with expectancy disconfirmation (Oliver 1980), justice, fairness (Huppertz et al. 1978), norms (Cadotte et al. 1978), and attribution (Folkes 1984).

Recently, the notions of Consumers' e-satisfaction in on-line environments are coming up. Szynamsky and Hise (2000), documented that convenience, product information, site design, and financial security have statistically signified influence on e-satisfaction levels.

In past researches, the equity and determinants of transaction satisfaction were not extended to consumer satisfaction on e-commerce. In this study, equity is adapted to electronic commerce. We add Navigational Equity to existing equity concept: Payment and Service (Huppertz et al. 1978). Additionally, we introduced the navigational environment which include system quality, ease of use, social pressure, playfulness, and the protection of private information were analyzed.

The objectives of this study are to (1) analyze the navigational environment, variables influencing equity of consumers using e-commerce, (2) conceptualize equity on e-commerce as payment equity, service equity, and navigational equity, (3) review the theory about e-satisfaction on the e-commerce, (4) present a model and a set of propositions that describe the relationship between navigational environment, navigational equity, and e-satisfaction.

## II. Theoretical Background

### 1. Equity

The social science literature on equity is extensive. Equity has been recognized as a central phenomenon of dyadic relations in purchase or acquisitions. The common definition of equity whereby the ratio of ones out comes to inputs is assumed to be constant across participants in an exchange (Adams 1965)

### 1) Equity Theory

The literatures on equity in off-line settings are various and extensive. To apply the concepts of equity to e-satisfaction, we should present a succinct statement on equity theory relevant to consumer transactions (Oliver and Swan 1989).

#### First, Traditional Equity Theory

The process of equity is thought to apply to any exchange where a focal person invests inputs in a transaction and receives outcomes. Two perspectives on this process have been studied in the social science literature.

Sociologists have extended this interpretation to institutional exchange, where comparisons are made against broader norms thought to exist in society. Examples include salary levels of various occupations (Jasso and Rossi 1977), definitions of financial well being, and perceptions of (in)equity in taxation.

#### Second, Contemporary Equity Theory.

Contemporary equity theory has emerged in response to empirical research findings concerning equity and to conceptual refinements in recognition of how different settings may influence the process (Messick and Sentis 1979,1983). This has resulted in modifications of each step of the equity process (Oliver and Swan 1989).

#### (1) Multidimensional Inputs and Outcomes

A working assumption of early equity theory studies was that single inputs and outcomes (such as hours of work and dollars of pay) were involved. However, consumer equity involves multiple, heterogeneous inputs and outcomes due to the consumer sales setting. Consumer inputs include time, money, and shopping effort, among others. Outcomes involve product performance, services surrounding the sale, the prestige of the brand, and so forth. In contrast, merchant inputs involve information, product assessment, and lost opportunities with other consumers; outcomes can include such benefits as commissions and referrals.

#### (2) Integration Rules

Traditional equity research also assumed that partners have similar resources. A property of the consumer setting is that the exchange partners (i.e., consumers and merchants) possess quite different resources. Given these disparate inputs and

outcomes, Oliver and Swan (1989) assume only that each party has diverse resources, which the other desires, and that each will be sensitive to the level of resources exchanged. Thus, it is posited that the perceiver of the equity relationship translates these diverse inputs and outcomes into common units. Once this is done, these perceptual units can be integrated into input units, outcome units, and later into equity units.

Applications of the common integration rules can be found in recent articles by Brockner and Adsit(1986). At the most basic level is a subtraction procedure used by Brockner and Adsit whereby a party's equity score is defined as the difference between his/her outcomes and inputs. Positive inequity exists when the focal party's score exceeds that of the comparison partner, equity maintains if the scores are equal, and negative inequity exists if the partner's score is greater.

### (3) Distribution Rules

Comparison rules for defining equity have been proposed by Messick and Sentis(1979). Research and theory have led to two different sets of distribution rules, termed fairness and preference (Oliver and Swan 1989). The latter reflects an egocentric bias (Messick and Sentis 1979) of egoism hypothesis. Research on preference suggests that the threshold for distress is higher when inequity is positive rather than negative. In effect, some amount of positive inequity is thought to enhance satisfaction (Brockner and Adsit 1986).

## 2) The Types of Equity

### (1) Payment Equity

Equity is the customer's evaluation of what is fair, right, or deserved. It is the distributive dimension of perceived justice, involving a comparison of outcomes to inputs (Huppertz, Arenson, and Evans 1978). Payment equity was defined as the customer's changing evaluation of the fairness of the level of economic benefits derived from usage, in relation to the level of economic costs (payment) (Bolton and Lemon 1999).

In evaluating payment equity, Bolton and Lemon (1999) postulate that customers' initial normative expectations will influence their perceptions of equity. In addition, Bolton and Lemon (1999) expect customers to make three comparisons.

Customers will compare their current usage levels with their normative expectations of usage. Customers also will compare their current payment levels with their normative expectations of payment. Finally, customers will compare the current performance of the service with their normative expectations of the service. Bolton and Lemon (1999) examine each of these antecedent variables.

Disconfirmation for dealer, salesperson, and car was measured on Oliver's (1980) three-item, "better than expected/worse than expected" scale. The three items sampled the dimensions of problems, benefits, and overall perceptions.

### (2) Service Equity

Oliver and Swan (1989) were first to model the joint influence of disconfirmation and perceived justice on customer satisfaction, but they address only one aspect of perceived justice, the distributive (equity) aspect.

Distributive justice, which involves resource allocation and the perceived outcome of exchange; procedural justice, which involves the means by which decisions are made and conflicts are resolved (Thibaut and Walker 1975); and interactional justice, which involves the manner in which information is exchanged and outcomes are communicated (Bies and Shapiro 1987).

### (3) Navigational Equity

Hoffman and Novak (2000) defined a hypermedia Computer Mediated Environment (CME) as: a dynamic distributed network, potentially global in scope, together with associated hardware and software for accessing the network, which allows consumers and firms to 1) provide and interactively access hypermedia content (i.e. "machine interaction"), and 2) communicate through the medium (i.e. "person interaction")

Hoffman and Novak (2000) introduced a series of research propositions derived from the process model of Network Navigation in a Hypermedia CME that identify antecedents of flow

Perceived Congruence of Skills and Challenges. Consider the first necessary condition (prerequisite) for flow to occur. Only when consumers' perceive that the hypermedia CME contains high enough opportunities for action (or challenge), which are matched with their own capacities for action (or skills), will flow potentially occur. Csikszentmihalyi's original (1997) model specified that flow occurred when a person perceived an equal match between skill and challenge,

both when skill and challenge were equally high and when skill and challenge were equally low.

Focused Attention. The presence of focused attention is also necessary to experience flow.

Interactivity and Telepresence. Telepresence is hypothesized to increase the subjective intensity of the consumer's flow state. Telepresence(Steuer 1992) is the mediated perception of an environment, where "presence" is the natural perception of the immediate physical environment. A strong sense of telepresence is induced by vividness and interactive, as well as focused attention.

Hoffman and Novak (2000) developed a new process model of network navigation within the medium, built upon an extended concept of flow. After reviewing this distinctive feature, we introduced the notion of 'navigational equity' to explain how customer's e-satisfaction evaluations and service usage levels vary over time.

Navigational equity is the customers' normative evaluations in relation to the difference between customers' expectations of navigational activities on the Web and the navigational environments they experience. Navigational equity plays a key role in explaining how e-commerce usage levels and navigational environments influence customers' e-satisfaction, and thereby influence subsequent usage levels.

## 2. Navigational Environment

The World Wide Web consists of locations of site which provides (e.g. firms) erect on servers and users (e.g. consumers). On the Web, consumer-oriented network navigation consists of visiting a series of web sites in order to search for information and/or advertising about products, browse content (possibly advertiser supported), or place an order for a product. Sites are accessible through client software called a Web browser (Kent 1995) available on Macintosh, Windows, and UNIX platforms, and a (preferably) high-speed Internet connection. (Hoffman and Novak 1995)

To purchase a product, search for information, and visit a site, etc., consumers will navigate through all sites on the web. We call Navigation all activities consumers do on the Web.

In this study, Navigational environment include system quality, easy of use, social pressure, playfulness, and the protection of private information. (Ruth 2000)

#### 1) System Quality

Davis(1989) suggested that system quality played an important role on usage as an external factor effecting attitudes. (Lgbaria, et al. 1995), citing his prior work on system quality as well as that from (Lucas 1978), developed a 5 item scale representing system quality. The 5 dimensions were functionality, equipment performance, interaction, environment, and user interface. It exhibited relatively high reliability and construct validity. Similarly the scale for this research will map these five dimensions of system quality within the context of an Internet system.

#### 2) Ease of Use

Davis (1989) defined perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance. Perceived ease of use is "the degree to which a person believes that using a particular system would be free of effort".

#### 3) Social Pressure

The normative belief or social pressure construct will consist of one question "most people who are important to me think I should be using the Internet to buy products and services". This approach is consistent with (Fishbein and Azjen 1979) recommended guidelines of Fishbeins work. Since this is a one-dimensional scale, tests of reliability will not be possible here. It should be noted, however, that Lgbaria, et al. used this construct successfully in a Technology Acceptance Model (TAM) application.

#### 4) Playfulness

Playfulness was operationalized using a scale developed by (Webster and Martocchio 1992). Termed the Computer Playfulness Scale (CPS), the construct should measure the degree to which individuals enjoy "cognitive spontaneity" with the computer interface. Individuals are asked their agreement or disagreement with 7 adjectives describing their possible interaction with the system. The items are

spontaneous, unimaginative, flexible, creative, playful, unoriginal and uninventive.

#### 5) The Protection of Private Information

A side effect of the Internet age represented as hacking and information effluence now is not just a problem of large companies and public institutions. For instance, a great deal of private information can be infinitely stored, processed and expanded easily through the computer network about when, where, who you meet and what you do, what kind of consuming propensity you have, what kind of money dealing with someone you have, what kind of medical history you have etc. Therefore, the private information outflow is one of the biggest problems in Internet.

According to Smith et al. (1999), Perceived Information Privacy(PIP) is "I worry when I am asked to provide my credit card number over the Internet."

### 3. e-Satisfaction

Szymanski and Hise (2000) examined that convenience, site design, and financial security are the dominant factors in consumer assessments of e-satisfaction.

First, shopping online can economize on time and effort by making it easy to locate merchants, find items, and procure offerings (Balasubramanian, 1997). Consumers do not have to leave their home nor travel to find and obtain merchandise online. They can also browse for items by category or online store. These time and browsing benefits of online shopping are likely to be manifested in more positive perceptions of convenience and e-satisfaction.

Second, positive perceptions of online merchandising represent another set of elements that could positively impact e-satisfaction levels. Merchandising is defined here as factors associated with selling offerings online separated from site design and shopping convenience. This includes the product offerings and product information available online.

Third, in addition to possible convenience and merchandising effects, the ambience associated with the site itself and how it functions could play a role in whether consumers are satisfied or dissatisfied with their online shopping experiences. Manes (1997), for example, reports that good Web-site design is about good organization and easy search. This includes offering consumers

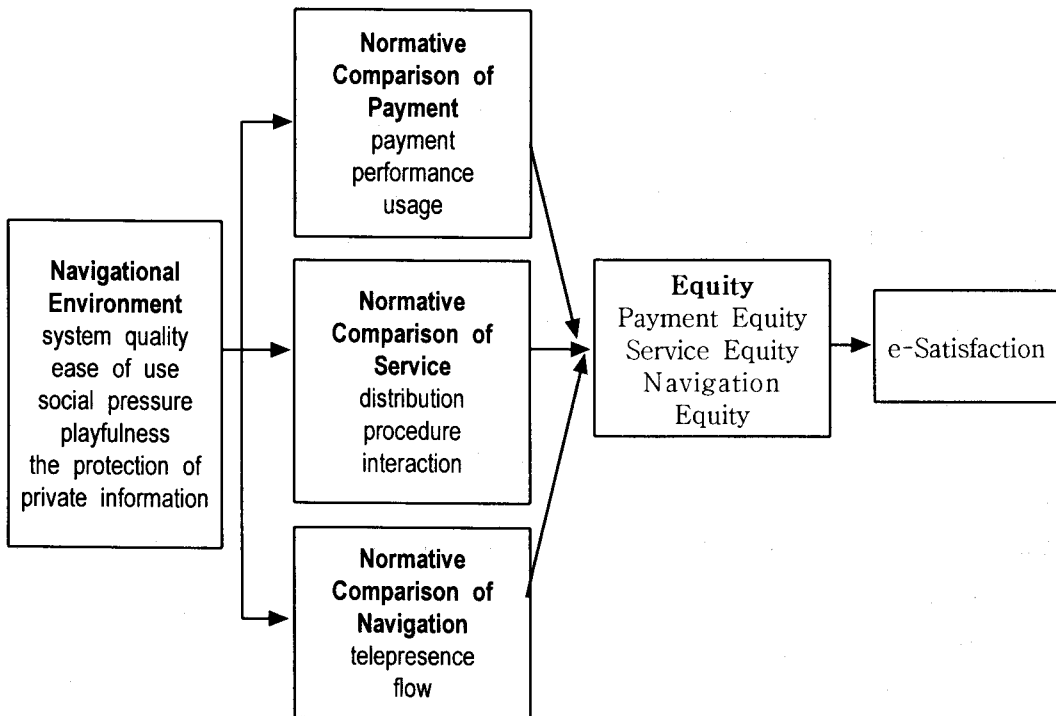


uncluttered screens, simple search paths, and fast presentations.

Finally, the security of online transactions continues to dominate discussions on Internet commerce and perhaps with good reason. 75% of Internet shoppers emphasize credit-card security as a major consideration when deciding whether or not to buy items online.

### III. Model and Propositions

#### 1. Model



#### 2. Propositions

P1: Navigational environment will positively influence normative comparison of payment.

P2: Navigational environment will positively influence normative comparison of

service.

P3: Navigational environment will positively influence normative comparison of navigation.

P4: Normative comparison of payment will positively influence payment equity.

P5: Normative comparison of service will positively influence service equity.

P6: Normative comparison of navigation will positively influence navigational equity.

P7: Equity will positively influence e-satisfaction.

#### IV. Implications

The following strategic implications can be drawn from this research:

First, this study provides a new explanation of the equity in Internet environment.

Second, this study examines the antecedents of equity in navigational behavior.

Third, the relationship of equity and e-satisfaction in e-commerce can be identified.

Finally, the concept of navigational equity was introduced.

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