

The impact of customer's affective trait on e-service quality and satisfaction - travel website cases

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Abstract—With a tremendous increasing of e-commerce service users and their visits of travel web sites, the author proposed a model that links these constructs as e-service quality, customer's satisfaction, affective trait, user's recommendation and complain and empirically tested it in e-service website settings. This study examines the relationship of two dispositional factors, positive and negative affect (PA and NA), with e-service quality on customers' satisfaction. After conducting an empirical study in Taiwan, travel websites e-service quality consists of two important factors: information quality and system quality which cover the context of communities, e-commerce, functions as well as personal e-services of a travel web site, have been developed from the perspective of meeting users' positive and negative affections

Among a sample of 285 on-line travel website users by the questionnaires survey were collected, the principle findings indicate that information quality and system quality are positively related to the customers' satisfaction. More importantly the data show that PA and NA affective trait have the significant effect on the relationship between e-service quality and customers' satisfaction. The results offer insight into that the user with difference of affection is an important factor and helpful to understand customer's behavioural intention for on-line experience goods/services. The managerial implications and the directions for further studies have been discussed.

Keywords— Positive and negative affect, Service quality, Customers' satisfaction, e-commerce websites

I. INTRODUCTION

E-services are pervasive in today's market space [14]. They are offered both traditional and on-line firms either for competitive advantage or from competitive necessity [21]. E-services range from the electronic provision of traditional services, such as airline ticketing, investing, and banking, to intelligent interactivity in post-sales product support.

The moods of service providers and customers are antecedent conditions that influence many service factors. In fact, employee and customer moods are one of the few antecedent states potentially impacting all service encounters. While mood has been a recurring theme in the marketing, organizational behavior, and psychology literatures (e.g. [2], [9]), only limited published research has considered the role of moods in the service encounter at a conceptual level (e.g., [18], [25], [27]).

This research considers a specific dimension of mood—positive and negative affect, and its relationship with behaviors and evaluations in the service encounter through travel website cases.

II. MOODS OF POSITIVE AND NEGATIVE AFFECT

Moods are "feeling states that are subjectively perceived by individuals" [11]. The feeling states associated with moods are affective states that are general and pervasive and are not directed toward anyone or anything in particular. Instead, this states "provide the affective coloring for day-to-day events"[10]. In this way, the affective state associated with mood is distinguishable from the affective component of attitude (e.g., [11], [12]).

The two primary dimensions of mood are positive affect and negative affect (e.g., [45], [47]). Positive affect is characterized by activity, enthusiasm, and alertness; while negative affect is associated with feelings such as guilt, fear, anger, contempt, disgust, and nervousness [47]. Positive affect and negative affect are not opposites of each other, but are two highly distinct dimensions of mood that have consistently been represented as orthogonal dimensions in factor analytic studies[45].

Positive and negative affect (PA and NA) are theoretically and empirically independent affective traits [39] that are relatively stable over time and that are related to a variety of work-related outcomes, such as job satisfaction [41] and social behavior [13].

III. RESEARCH MODEL

The key objective of this study is to evaluate the positive-negative asymmetric approach in the e-online environment. This study attempts to examine the asymmetrical effects of bad and good e-service quality web site attribute performance and customer satisfaction. Figure 1 depicts the research model.

Information Quality. High information quality has long been found to be associated with system use, user satisfaction, and net benefits. In the online environment, the importance of information quality is further elevated [7]. Reference [44] urged that the quality of the web content determines whether potential customers will be attracted to or driven away from the web site. Reference [20] and [42] suggested that information quality is a strong determinant of consumer satisfaction with internet shopping. Within the end-user

computing context, the quality of information is basically evaluated in terms of the information content, accuracy, format, and timeliness. In line with the advent and proliferation of Internet shopping, researchers began to extend existing information quality dimensions. In Reference [28], web satisfaction model, understandability [19], reliability [22], and usefulness [26] of information are then three key dimensions related to information quality. Understandability is concerned with the clearness and goodness of the information. Reliability incorporates the degree of accuracy, dependability, and consistency of the information [7]. Usefulness means users' assessment of the likelihood that the information will enhance their decision. Reference [8] pointed out that accuracy, relevance, understandability, completeness, currency; dynamism, personalization, and variety are the information quality measures used in recent e-commerce studies.

Building upon prior studies (see table 1), we believe that the customers realize the better web site attribute performance (Information quality) on satisfaction will have significant affect on the positive affective experience. We have the following hypotheses:

H1: Customers who perceive higher e-service quality is positively associated with their positive affect with e-service use.

H1a: Customers who perceive higher information quality is positively associated with their positive affect with e-service use.

H1b: Customers who perceive lower information quality is positively associated with their negative affect with e-service use.

System Quality. System quality is a measure of the information processing system itself, and it focuses on the outcome of the interaction between the user and the system [7]. In the online environment, system quality is largely characterized by the interaction between consumers and the web site (e.g., Information searching, downloading, and doing e-commerce transactions). Usability principles rooted in human-computer interaction provide important guidance for web site design. Reference [34] highlighted the importance of consistency, ease of use, clarity of interaction, ease of reading, arrangement of information, speed and layout in web site design, and suggested that a web site with a high degree of usability should generate a desirable perception of its use and an intention to use the site. In the DeLone and McLean Updated IS Success Model [8], system quality is a key attribute associated with user satisfaction in the e-commerce context, and the model suggests that usability, availability, reliability, adaptability, and response time (e.g., download time) are examples of qualities that are valued by users. Reference [28] empirically determined three dimensions of system quality for web customer satisfaction, including access, usability, and navigation. Detailed descriptions of three dimensions of system quality are addressed. Access refers to the speed of access and availability of the web site at all times. Usability is

concerned with the extent to which the web site is visually appealing, consistent, fun, and easy to use [7](see table 1).

Based on the positive-negative asymmetric approach, we believe that the customers accept the bad site attribute performance (system quality) on satisfaction will have significant affect on the negative attribute mood. Here, the hypotheses of the current study are:

H2: Customers who perceive higher e-service quality is positively associated with their positive affect with e-service use.

H2a: Customers who perceive higher system quality is positively associated with their positive affect with e-service use.

H2b: Customers who perceive lower system quality is positively associated with their negative affect with e-service use.

Customer Satisfaction. Satisfaction is an affective state that is the emotional reaction to a product or service experience [29]. Related studies on quality and satisfaction factors are collected in table 1. Accordingly, we define satisfaction as the overall affective evaluation a user has regarding his or her experience related with the web site.

H3: E-Service Quality is positively associated with customer satisfaction with e-service use

H3a: Information quality is positively associated with customer satisfaction with e-service use.

H3b: System quality is positively associated with customer satisfaction with e-service use.

Researchers in consumer behaviour have recognized affective influence in consumer post-adoption behaviours [34]. Researchers in consumer behaviour have found that affect (emotion) coexists with cognition (i.e., confirmation) in the formation of satisfaction [29]. More specifically, previous research linking emotion and satisfaction has found that product satisfaction is decreased by negative affect and increased by positive affect [32]. Therefore, hypothesize that:

H4: Customers' level of positive affective response to e-service is positively associated with their satisfaction with e-service use.

H5: Customers' level of negative affective response to e-service is negatively associated with their satisfaction with e-service use.

Table 1. Selected studies on quality and satisfaction with consumer-based electronic commerce

construct	factors	Study
Information Quality	Understandability	[8], [19], [28], [33]
	Reliability	[7], [8], [22], [28]
	Usefulness	[26], [28]
System Quality	Access	[28], [48]
	Usability	[8], [28], [34], [50]
	Navigation	[28], [30], [36]
Customer satisfaction		[29], [32]

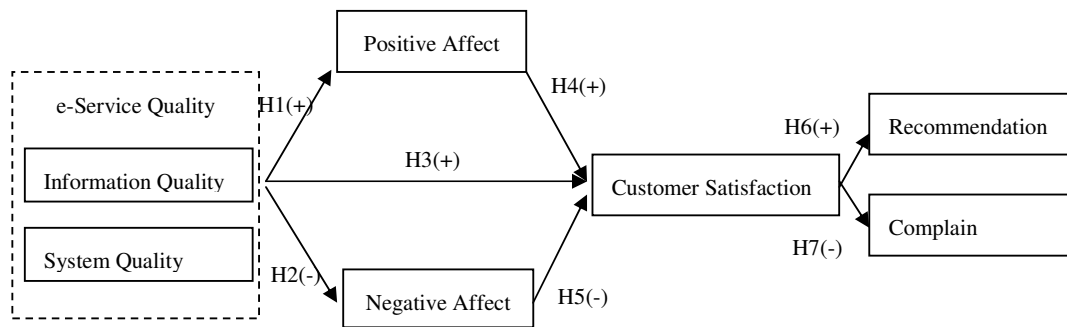


Figure 1. Research Model

Recommendation and Complaint Behaviours. Using social computing technologies, such as blogs, consumer forums, price comparisons and reviews, and really simple syndication, resulting from recent technological advances, e-customers generate enormous amounts of content every day. If on line e-service providers are to manage all this user-generated content, they have to understand what determines the post-adoption behaviors of e-service customers. This need is compounded by the fact that customers are more likely to be frustrated and experience greater negative affect in the on-line environment, where there is no presence of front-line staff, than in physical service settings, where they can talk face-to-face with a real human [49]. Thus, paying attention to complaint behaviors and recommendation behaviors and understanding how they are formed is crucial for on-line service provider in dealing with the problems that induce the negative affect that can lead to customer dissatisfaction with an e-service. Complaint and recommendation are affect-driven behaviors. In particular, affective events theory (AET) posits that affective reactions in the workplace determine affect-driven behaviors [40]. From AET, positive affect fostered helping behavior by coworkers [46]. In Reference [40], recommendation behavior is similar to helping behavior in that both produce selfless acts in which individuals assist others. Thus it can be reasonably argued that recommendation is also determined by positive affect. Similarly, complaint was found to be determined by negative affect [4].

The results of previous studies suggest that the behavioral responses of unsatisfied customers to service failures consist of negative word-of-mouth, complaints, and switching behaviors [4]. Based on these findings, one may hypothesize that:

H6: Customers' on-line e-service recommendation intention is positively associated with the satisfaction.

H7: Customers' on-line e-service complaint intention is negatively associated with the satisfaction.

IV. MEATH

This study examines the relationship of two dispositional factors, positive and negative affect (PA and NA), with

e-service quality on customers' satisfaction, recommendation and complain. After conducting an empirical study in Taiwan, travel websites e-service quality consists of two important factors: information quality and system quality which cover the context of communities, e-commerce, functions as well as personal e-services of a travel web site, have been developed from the perspective of meeting users' positive and negative affections

Instrument

The constructs were measured using multiple-item scales drawn from previous Research. Table 2 summarizes the constructs and the source of instrument for each construct, appropriately reworded to fit the e-service context. Respondents are asked to describe to what extent they have felt a certain way during the past week by rating each word on a 5-point; Likert scale ranging from 1 (very slightly or not at all) to 5 (extremely).

Table 2. Measurement

Construct/ Variable		Source
Information Quality	Understandability	[18], [27]
	Reliability	[21],[27]
	Usefulness	[25], [27]
System Quality	Access	[45]
	Usability	[33]
	Navigation	[25]
Positive and Negative Affect		[44]
Customer Satisfaction		[29]
Recommendation		[4] [38]
Complain		[6] [38]

Sample

The investigation survey was designed originally from the literature review and revised through expert interviews so that the content validity could be assured. Sample from 285 on-line travel website users by the questionnaires survey were collected. Survey data was randomly sampled and collected through e-mail and paper-mail, and after eliminating the same samples, we issued random samples of the survey to 744 on-line users. There were 285 effective surveys (38.30%) collected.

285 on-line travel website users (147 women and 138 men) outpatients receiving psychotherapy treatments through a university-based training centre participated in this study. The sample was with a mean age of 25.95 years (SD = 8.4, range = 15 to 39). All participants gave informed consent.

V. RESULT

The loadings of questionnaire items loaded on their assigned constructs with relatively smaller cross-loadings [14]. All the items most loadings were above 0.70 and all of them were above the acceptable level of 0.60 (Hair, et al., 1998). All loadings were significant at the $p < 0.001$ level. The expected factor structure was obtained in all seven constructs. Scale reliability was tested and the Cronbach alpha values were in the range 0.81 to 0.94 for the six constructs, indicating a high internal consistency of measure reliability [31]. Composite reliability was then assessed by examining the pc values for the constructs, all of which were above the suggested threshold of 0.7.

The average variance extracted values were all above the recommended threshold of .50 and the square root of those values were all greater than the construct correlations [10]. The convergent and discriminate validity tests were both satisfied. Hypotheses were tested within the structural model shown in Figure 2. As hypothesized, confirmation was significantly associated with both positive affect and negative affect, supporting both the theory of cognitive appraisal of emotion and a previous study [37].

Table 3. Goodness-of-Fit Indices for the Measurement Model

Fit index	χ^2	DF	GFI	AGFI	NFI	CFI	RMSEA
	7.96	11	0.924	0.912	0.893	0.933	0.025

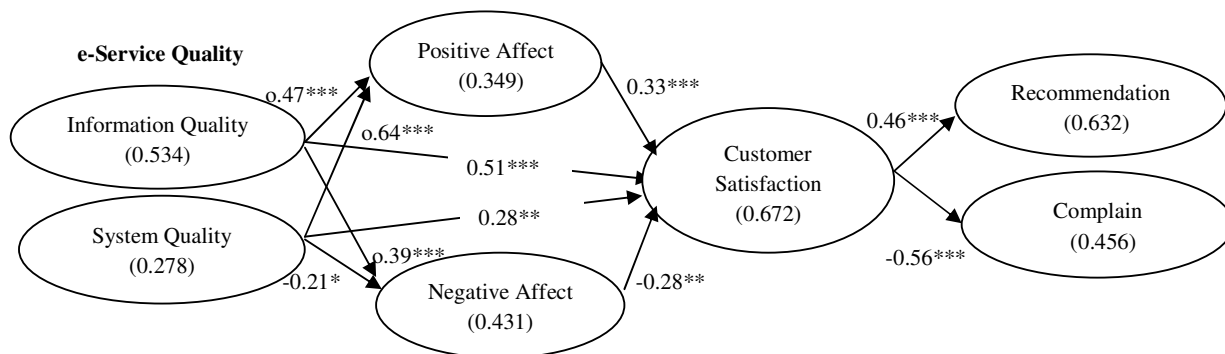


Figure 2. The result of e-service quality, affective trait, customer's satisfaction, user's recommendation and complain in travel web site settings

The model shown in Table 3 was examined and tested using PLS to determine whether adjustments were necessary, which states from reference [1]. In general, according reference [7] examined the chi-square/d.f. in this study meets the standard criteria well because chi-square/d.f. must be lower than 2.0 according to the informal rule-of-thumb criteria. Besides, the normed fit index (NFI), the comparative fit index (CFI), and the goodness of fit index (GFI) should each be greater than 0.90.

The rules are important in assessing the fit of the model, and the root mean error of approximation (RMSEA) that should be smaller than 0.10 for a good fitting model. The model of this study presented in Table1 was tested and provided good indicators of fit, the value of GFI of 0.924 and CFI of 0.933. As [1] suggested the goodness-of-fit indices herein do not contain any implication, because they are just indices to verify whether the model fit is acceptable or not.

VI. IMPLICATIONS

From practice perspective, on-line e-service providers must consider the two aspects of customer behavior as recommendation, and complaint after e-service use. The best approach for e-service providers to address all these two post-adoption behaviors is to maintain customers' satisfaction with e-service quality use because satisfaction can lead to higher recommendations and lower complaint. Previous related studies have identified several significant relationships, but they may not be as useful as those from a categorical perspective.

Our principal findings were that (1) information quality and system quality influence positive and negative affect mood; (2) positive and negative affect mood can affect customer satisfaction; and (3) recommendation and complain is affected most by customer satisfaction, while perceived ease of use is influenced equally by consistency and technical convenience. The practical implications of these findings are that financial corporations that use web sites to support individual investors should pay attention to

the five constructs identified in this study (information quality and positive and negative affect, customer satisfaction, recommendation and complain) before designing and implementing their web sites. To achieve customer satisfaction, e-service providers should maintain customers' positive affective experiences, minimize their negative affective experiences, make the e-service useful, and know the customers' expectations of the e-service use.

According to the results of this study and previous related studies, minimizing customers' negative affective experiences with e-service is very important, since negatively emotionally charged customers spread complaints to both the e-service provider and third parties, thus discouraging others from using the e-service. For experience goods/services, connectivity, information quality, and interactivity are helpful for strengthening user's behavioral intention. For credence goods/services, information quality and system quality are significant to improve customer's behavioral intention. Thus, on-line environment, where social computing and networking on-line are in fashion, negative word-of-mouth can very quickly damage an e-service company. In contrast, constructive complaints should be encouraged and rewarded.

Further research that focuses on a continuous approach may contribute to this area of investigation by employing multiple regressions or discriminate analyses to control for relationships that may exist between the personality disorders themselves.

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