Online complaining: understanding the adoption process and the role of individual and situational characteristics

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Online Complaining:

Understanding the Adoption Process and the Role of Individual

and Situational Characteristics

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ABSTRACT

Despite the relevance of online customer complaining, little research exists in this area. The purpose of this paper is twofold. First, develop and test a conceptual model to understand customers' intention to adopt online complaining. Second, compare two competing perspectives regarding elaboration likelihood (i.e. willingness / ability to exert cognitive effort and consumption value) for the moderating impact of individual differences.

Regarding the first objective, our findings reveal that customer's attitudes toward online complaining are explained by outcome and process characteristics. Attitude towards online complaining is also influenced by individual characteristics, but surprisingly remains unaffected by situational characteristics. In contrast, usage intentions are influenced by situational characteristics, but do not depend on personality differences.

Surprising results are found concerning our second objective. For the moderating impact of affect-based personality characteristics, the often used cognitive effort perspective to elaboration likelihood is not supported. Rather the consumption value perspective applies for these variables.

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INTRODUCTION

Effective complaint management is vital in order to secure customer satisfaction and loyalty, prevent negative word-of-mouth, and improve financial performance (Dong *et al.*, 2008; Tax *et al.*, 1998). A necessary condition for effective complaint management is that customers actually do voice their frustration and dissatisfaction to the firm. Unfortunately, the majority of dissatisfied customers fail to complain to the offending companies (Stephens and Gwinner 1998). Research (e.g. Mattila and Wirtz, 2004; Voorhees et al., 2006) suggests that offering customers the possibility to also complain online may increase the number of dissatisfied customers actually voicing their frustration directly to the firm. Put differently, enabling direct online customer complaining represents a marketing investment opportunity with a high rate of return.

Despite these obvious benefits, no research exists on what determines the customer's attitude and behavioral intentions towards online customer complaining. This gap in the service management literature guides the two interrelated research objectives guiding the present study. Our first objective relates to the development and empirical assessment of a model aimed at better understanding customer adoption of online complaining. Our model examines the impact of several technology beliefs on customer attitudes and behavioral intentions towards online customer complaining as well as the moderating effect of customer and situational characteristics on these relationships. Our second research objective relates to the theoretical perspective underlying the hypothesized moderating effects of customer characteristics. The literature offers two competing perspectives on elaboration likelihood (i.e. willingness / ability to exert cognitive effort and consumption value) for our hypotheses

pertaining to the moderating effects of personality variables. From our research, one finding of significant importance stands out. The often used cognitive effort approach to information processing does not adequately predict the moderating influence of more affect-based customer personality characteristics in technology acceptance. Rather the consumption value perspective to information processing applies for these variables in this context. We think that this finding will have impact on future research.

The paper is organized as follows. First, we focus on the importance of online customer complaining. Second, by combining existing marketing and information systems literature we propose a conceptual model aimed at understanding customers' intentions to use online complaining. Subsequently, we present the results from an empirical study testing our model. We conclude with a discussion of our findings and implications for future research.

LITERATURE REVIEW

Online customer complaining

As evidenced by the literature, online customer complaining can refer to either seeking redress at the faulting firm as well as using the Internet to publicly complain about firms (see for instance Grégoire *et al.*, 2009). Furthermore, it is important to point out that our study does not focus on SST failure, defined as customer's perception that one or more aspects of SST delivery did not meet expectations (Robertson *et al.*, 2012), per se. In the current study online customer complaining refers to the *direct* connection of the customer to the faulting firm using the Internet regardless of whether the actual service was acquired in an online or offline context. Based on the classification scheme presented by Mattila and Wirtz (2004), online customer complaining should be considered as an extra channel to voice customers'

frustration in addition to the traditional, more interactive ways to seek redress, i.e., face-to-face and phone.

Supplementing the channels by which customers can complain with a user friendly online option, should increase the potential number of customers who actually complain for several reasons. First, customers' complaining motivations determine complaint channel choice (Mattila and Wirtz, 2004). Practically this implies that more shame prone customers are willing to complain when there are remote channels available such as online customer complaining. The chance that these customers do not voice and simply defect would be substantially larger when only interactive channels would be available. Second, research by Voorhees *et al.* (2006) reveals that the most common reasons for not complaining are time and effort. As online complaining may increase the customer's perceived convenience of complaining this may stimulate actual complaint behavior (Berry *et al.*, 2002). From the firm's perspective, another advantage comes from the fact that a SST, such as online complaining system, is an economically feasible option as it is typically more effective and efficient than providing traditional customer service (cf. Cunningham *et al.*, 2009).

Conceptual model and hypotheses

In Figure 1, we summarize the conceptual model guiding our empirical study on the adoption of online customer complaining system.

[PLEASE INSERT FIGURE 1 ABOUT HERE]

Our point of departure for studying online complaining is the Technology Acceptance Model (TAM), originally developed for studying employees' adoption of work-related

information technology (Davis, 1989; Davis *et al.*, 1989). In marketing, TAM has been applied to explain customers' adoption of SST in private services (Dabholkar, 1994; Dabholkar and Bagozzi, 2002) and government services (Lanseng and Andreassen, 2007). Based on a meta-analytic study, King and He (2006) conclude that TAM is a powerful and robust model in predicting people's acceptance and use of technology.

A review of the literature on technology acceptance discerns the following important antecedents to attitude, and thus indirectly to behavioral intent:

- *Perceived ease of use*: the degree to which a person believes that using a technology will be simple and easy (Venkatesh, 2000).

- *Perceived enjoyment*: the extent to which the use of a particular technology is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated (Davis *et al.*, 1992).

- *Perceived usefulness*: the prospective user's subjective assessment of the probability that using a specific technology will increase their job performance (Davis *et al*., 1989; Venkatesh, 2000. Dabholkar and Bagozzi (2002) who claim that the original definition of usefulness does not apply in SST contexts. Usefulness in an online complaint setting is defined in terms of the customers' perceptions regarding the technology-based services' levels of reliability and accuracy (Dabholkar, 1994) – or alternatively, the extent to which the technology did what it was supposed to do (Meuter *et al.*, 2000).

In line with the well-documented cause-and-effect TAM model (for reviews on TAM see Venkatesh *et al.*, 2003; King and He, 2006; Schepers and Wetzels, 2007), the hypotheses comprising our core attitudinal model are:

Hypothesis 1: The perceived ease of use of online complaining will have a positive effect on attitude towards using it.

Hypothesis 2: The perceived usefulness of online complaining will have a positive effect on attitude towards using it.

Hypothesis 3: The perceived enjoyment in using online complaining will have a positive effect on attitude towards using it.

Hypothesis 4: The attitude towards online complaining will have a positive effect on the intention to use it.

The need for assessing moderating effects

As the goal is to increase explained variance in the dependent variable (i.e. intention to use), empirical evidence suggests that the predictive power of the TAM's basic form may be enhanced significantly by including moderating constructs (Agarwal and Prasad, 1998; Dabholkar and Bagozzi, 2002). In our study, two categories of moderating constructs (i.e. individual characteristics and situational factors) are incorporated to gain a more precise understanding of customers' adoption of online complaining. In explaining the acceptance of technology-based complaining it is relevant to investigate individual characteristics as moderators because research on individuals' decision making suggests that individuals' choices are based on beliefs and utilities (Liska, 1984; Medsker *et al.*, 1994; Agarwal and Prasad, 1998). For example, two consumers may hold similar beliefs but the impact of these beliefs on the development of attitudes and behavioral intentions may vary because of differences in the consumers' utility functions. Likewise, situational factors have been shown to influence the magnitude and direction of the relationships constituting the technology adoption process (Dabholkar and Bagozzi, 2002; Lee *et al.*, 2005; Bhattacherjee and Sanford, 2006). Therefore, the identification of situational factors which moderate the technology adoption process is relevant because it allows us to identify conditions that can be anticipated.

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Recent studies (see for example Rodgers *et al.*, 2005; Park and Yang, 2006; Castañeda *et al.*, 2007)　show that dual process models like the Elaboration Likelihood Model (ELM) offer a useful theoretical framework for explaining the moderating effects of a wide variety of factors forming people's attitudes towards technology.

The formation of customers' attitude towards technology

The ELM (see Petty and Wegener, 1999 for an excellent review) suggests that beliefs towards an object are integrated in the attitude formation process via one of two distinct processes, the central route or the peripheral route. Under the central route, attitudes are shaped based on a rational process involving critical thinking regarding beliefs. Alternatively, under the peripheral route attitudes are shaped with little (or no) conscious thought about beliefs; rather, they are primarily shaped by the application of so-called heuristics as a means to reduce effort in decision making. The central and the peripheral route differ in the decision weights that are attached to the various beliefs in attitude formation. Utilitarian cues or beliefs are the focal point in the central route, heuristic cues or beliefs are the focal point in the peripheral route. In terms of the technologies beliefs put forward in our conceptual model, perceived usefulness is considered a non-heuristic or utilitarian belief. In contrast, ease of use and enjoyment are considered as more peripheral beliefs (Rodgers *et al.*, 2005; Park and Yang, 2006; Castañeda *et al.*, 2007). In line with the ELM, we posit that for individuals whose attitudes are formed via the central route, the relationship between usefulness and attitude towards online complaining will be stronger than it is for individuals whose attitudes are formed via the peripheral route (this is reflected in part (b) of our hypotheses). Because ease of use and enjoyment are more heuristic beliefs, we believe that they will have a stronger influence on attitude formation via the peripheral route than via the central route (this is reflected in parts (a) and (c) of our hypotheses). With reference to our conceptual model, it is important to

stress that the central route to cognition leads to more stable attitude formation than the peripheral route. According to Petty and Wegener (1999) central route processing results in a more stable attitude and therefore in a stronger link between attitude and behavioral intentions (this is reflected in part (d) of our hypotheses).

To predict the probability that attitude formation occurs via the central route rather than the peripheral route, can be explained from several perspectives. One theoretical view, states that the likelihood of processing information via the central route is positively related to an individual's level of willingness and ability to exert cognitive effort (Petty and Wegener, 1999). Put differently, situational and individual differences that are associated with a higher level of the willingness and ability to exert cognitive effort for the information processing task at hand are therefore positively related to the chance of processing information via the central route. An alternative theoretical perspective uses consumption value in explaining the information processing route a customer is likely to pursue (Shiv and Fedorikhin, 1999). According to the consumption value literature consumers' usage decisions are driven by hedonic and utilitarian components (Babin *et al,*. 1994). With regard to technology adoption, the distinction between hedonic and utilitarian consumption holds as shown by Venkatesh and Brown (2001), Childers *et al.* (2001) and Hartman *et al.* (2006). The utilitarian consumption value can be described as rational; because it involves deliberate striving for efficient task completion. A hedonic orientation is more subjective and personal than a utilitarian one because it focuses more on potential entertainment and emotional worth than on task completion (Babin *et al.*, 1994). In particular, research has shown that a hedonic consumption motive is related to the peripheral route of information processing whereas a utilitarian consumption motive is related to the central route put forward in the ELM (Shiv and Fedorikhin, 1999; Isbell and Wyer, 1999; Sivaramakrishnan *et al.*, 2007). Following this line of reasoning, situational and individual differences that are associated with a higher level of

the hedonic consumption value are positively related to the chance of processing information via the peripheral route. On the other hand, situational and individual differences that are associated with a higher level of the utilitarian consumption value are positively related to the chance of processing information via the central route.

In developing the hypotheses below, we will follow both theoretical perspectives. It is important to note that for the hypothesized moderating effects of inherent novelty seeking and need for social interaction this results in opposing effects.

Individual characteristics: Inherent novelty seeking Inherent novelty seeking, defined as the degree to which an individual is receptive to new ideas (Midgley and Dowling, 1978; Hirschman, 1980), is a personal characteristic believed to impact consumers' willingness to adopt new solutions. In a technology context, inherent novelty seeking reflects an individual's willingness to try new technology (Agarwal and Prasad, 1998; Robinson *et al.*, 2005). Inherent novelty seeking can be considered as a personality trait that is a relatively stable descriptor of individuals; it is found to be invariant across situational considerations (Robinson *et al.*, 2005).

Inherent novelty seeking and Willingness / ability to exert cognitive effort

Highly innovative individuals usually engage in more extensive and elaborate information searches (Agarwal and Prasad, 1998; Robinson *et al.*, 2005)**.** Individuals possessing this personality trait are usually experts in the domain (Lafferty *et al.*, 2005). Following Rodgers *et al.* (2005), a higher level of inherent novelty seeking is therefore believed to be associated with information processing via the central route.

Hypothesis 5-CE: Because individuals characterized by higher levels of inherent novelty

seeking are more likely to form attitudes towards online complaining usage via the

central route:

a) the relationship between perceived ease of use and attitude towards online

complaining will be attenuated

b) the relationship between perceived usefulness and attitude towards online complaining

will be strengthened

c) the relationship between perceived enjoyment and attitude towards online complaining

will be attenuated

d) the relationship between attitude towards online complaining and the intention to use

online complaining will be strengthened.

Inherent novelty seeking and Consumption value Novelty seekers are intrinsically motivated

to use a new technology. Their inherent enjoyment in trying new ways to deal with situations

will lead them to adopt new online complaining systems regardless of its actual relative

advantages (Dabholkar and Bagozzi, 2002). In line with novelty seekers' emphasis on

entertainment and emotional attraction, we assume that with regard to online complaining a

hedonic consumption value applies (Rodgers *et al.*, 2005). Thus, in line with

Sivaramakrishnan *et al.*, 2007) inherent novelty seekers follow a peripheral route in their

attitude development towards online complaining.

Alternatively: Hypothesis 5-CV: Because individuals characterized by higher levels of

inherent novelty seeking are more likely to form attitudes towards online complaining usage

via the peripheral route:

a) the relationship between perceived ease of use and attitude towards online

complaining will be strengthened

b) the relationship between perceived usefulness and attitude towards online complaining will be attenuated

c) the relationship between perceived enjoyment and attitude towards online complaining will be strengthened

d) the relationship between attitude towards online complaining and the intention to use online complaining will be attenuated.

Individual characteristics: Need for social interaction Need for social interaction refers to the importance of human interaction to the customer in service encounters (Dabholkar, 1996). Consumers' defined as high on need for social interaction will by definition preferred to interact with people rather than technical solutions. The significance of this need must be seen in light of how service marketing has developed: from solely face-to-face interaction to an increasing injection of technology into the service offering, i.e. from high-touch to high-tech (Naisbitt *et al.*, 1999). Today most if not all services are two-tiered: one core service embedded in a layer of technology. People scoring high on need for social interaction will see less face-to-face interaction as inferior to more.

Need for social interaction and Willingness / ability to exert cognitive effort From a psychological viewpoint, person-to-person contact with a service employee might be socially rewarding as it will lead to a dialogue and interaction. Since service employees help in defining the problem, some consumers may consider person-to-person communication to be the easiest way of complaining – it may be perceived as one way of being in control of the process. In summary, it seems plausible to argue that people with a higher need for social interaction will be less motivated to engage in technology-based complaining because they are psychologically predisposed towards human contact. Consequently, the attitude towards

using online complaining system for people characterized by a high need for social interaction are more likely to be shaped via the peripheral route as they are less motivated to exert cognitive effort (Bhattacherjee and Sanford, 2006). This leads to the following hypothesis.

Hypothesis 6-CE: Because individuals with a higher need for social interaction are more likely to form attitudes towards online complaining usage via the peripheral route:

a) the relationship between perceived ease of use and attitude towards online complaining will be strengthened

b) the relationship between perceived usefulness and attitude towards online complaining will be attenuated

c) the relationship between perceived enjoyment and attitude towards online complaining will be strengthened

d) the relationship between attitude towards online complaining and the intention to use online complaining will be attenuated.

Need for social interaction and Consumption value

Due to their preference for personal contact over technology-mediated contact, consumers scoring high on need for social interaction will not gain consumption value from the experiential features associated with online complaining systems. Rather consumption value for them will be a function of instrumental or utilitarian characteristics (Babin *et al.*, 1994). Thus, following Sivaramakrishnan *et al.* (2007) and Shiv and Fedorikhin (1999), we hypothesize that consumers with a high need for social interaction will use the central route in developing an attitude towards online complaining.

Hypothesis 6-CV: Because individuals with a higher need for social interaction are more likely to form attitudes towards online complaining usage via the central route

a) the relationship between perceived ease of use and attitude towards online complaining will be attenuated

b) the relationship between perceived usefulness and attitude towards online complaining will be strengthened

c) the relationship between perceived enjoyment and attitude towards online complaining will be strengthened

d) the relationship between attitude towards online complaining and the intention to use online complaining will be strengthened.

Situational Characteristics: Intensity of dissatisfaction According to Oliver (1997) dissatisfied consumers begin in a deficit, i.e., the sum of monetary outlays, psychological costs (e.g. frustration, anxiety, and tension) or loss of product or service utility. Greater intensity of dissatisfaction is associated with higher levels of perceived deficit and inequity/unfairness which is believed to be a strong motivator to restore justice. The essence of inequity is described in Homans' rule of justice: [a person's] rewards in exchange with others should be proportional to his [her] investments (Homans, 1961).

Intensity of dissatisfaction and Willingness / ability to exert cognitive effort In line with Monge *et al.* (1992) and Oliver (1997) we expect that the feeling of deficit and inequity motivates a customer to solve the resulting tension by for example using online complaining systems. Regarding the formation of attitude and behavioral intent, motivation is a key determinant of the amount of cognition a person is willing to exert. Alternatively, the level of motivation is positively associated with the likelihood of engaging in central processing.

Intensity of dissatisfaction and Consumption value

As dissatisfaction intensifies, perceived deficit and inequity will increase. Echoing Goodwin and Ross (1992), the level of inequity is positively associated a task-related orientation to resolve it. In line with previous research (Shiv and Fedorikhin, 1999; Isbell and Wyer, 1999; Sivaramakrishnan *et al.*, 2007) this task-related or utilitarian orientation is positively with information processing along the central route.

In summary, according to both theoretical perspectives we conjecture that greater levels of dissatisfaction are associated with the central route in the ELM. This leads to the hypothesis.

Hypothesis 7-CE/CV: In situations characterized by a more intense level of dissatisfaction regarding the transaction, customers are more likely to form attitudes towards online complaining usage via the central route and therefore:

a) the relationship between perceived ease of use and attitude towards online complaining will be attenuated

b) the relationship between perceived usefulness and attitude towards online complaining will be strengthened

c) the relationship between perceived enjoyment and attitude towards online complaining will be attenuated

d) the relationship between attitude towards online complaining and the intention to use online complaining will be strengthened.

Situational Characteristics: Outcome expectations The term "complaining outcome expectations" refers to the complainer's perception regarding the probability that

complaining will lead to a successful outcome, i.e. the firm will remedy the problem (Prakash, 1991).

Outcome expectations and Willingness / ability to exert cognitive effort

In line with social cognitive theory (Bandura, 1986), a person's beliefs about the consequences of specific actions predict whether that person takes these actions. Monge *et al.* (1992) showed that outcome expectations are an important predictor of a person's level of involvement. Therefore, we believe that the more favorable the expected outcome associated with online complaining, the more involved a person will be. In turn a high degree of involvement is associated with increased elaboration likelihood or central processing.

Outcome expectations and Consumption value

Wegener and Petty's (1994) hedonic contingency hypothesis, employed on outcome expectations, states that individuals strive to achieve or maintain a pleasant mood, predicts a utilitarian consumption value, and thus central processing, in a negative situation (i.e. service failure) when the individual believes that benefits are expected as a consequence of task performance (i.e. online complaining). Put differently, we hypothesize that with more favorably perceived outcome expectations lead to more elaborate information processing (i.e. central route).

Hypothesis 8-CE/CV: In situations where complaining is associated with high expectations regarding the possible benefits, individuals are more likely to form attitudes towards online complaining usage via the central route hence:

a) the relationship between perceived ease of use and attitude towards online complaining will be attenuated

b) the relationship between perceived usefulness and attitude towards online complaining will be strengthened

c) the relationship between perceived enjoyment and attitude towards online complaining will be attenuated

d) the relationship between attitude towards online complaining and the intention to use on-ine complaining will be strengthened.

METHODOLOGY

Sample and survey

The sample consisted of about 220 respondents who were mainly graduate students participating in an elective course on qualitative research methods at a continental European university. In total, 209 questionnaires were returned, a response rate of 95 percent. This exceptionally high rate can be explained by the data-collection method. Every student had to find and personally interview several respondents, and have them fill out the questionnaire. The median age of the respondents was 22 and the vast majority (88 %) was between 18 and 28 years old. The sample displayed an almost balanced gender distribution with 55 percent men and 45 percent women.

To assess the constructs used in our conceptual framework we used scientifically validated scales. With the exception of the scale for outcome expectations, which was developed by Blodgett et al. (1993), all scales used in our study were adapted from Dabholkar and Bagozzi (2002). All items were administered on a seven-point Likert scale anchored by strongly disagree (1) – strongly agree (7). A two-scenario setting was created to manipulate the perceived degree of dissatisfaction. Scenario-based surveys are commonly used in service failure / recovery studies (Dubé and Maute, 1998; Smith *et al.*, 1999; McCollough *et al.*, 2000; Smith and Bolton, 2002) because they eliminate difficulties with the observation of

service failure / recovery incidents. This is due to low incident rates and the managerial undesirability to deliberately impose service failures on customers, while avoiding response bias due to memory lapses and rationalization likely to be present in surveys that rely on recall.

We randomly assigned respondents to one of the two scenarios (see Appendix A for more details). Realism checks pointed out that customers perceived both scenarios to be realistic (scenario 1: 5.66; scenario 2: 5.72). As expected, respondents rated scenario one as a more dissatisfying situation than scenario two (scenario 1: 8.34, scenario 2: 7.02, $p < 0.0001$). The intensity of dissatisfaction was measured on a ten-point scale, with 10 indicating the highest level of dissatisfaction. Please see Table 1 below for descriptive statistics regarding the scales used in our study.

Estimation procedure

Due to the relatively low sample size to parameter ratio and non-normality of the data, a least squares estimation approach is preferred over a maximum likelihood approach. Furthermore, the estimation of structural models containing interaction terms composed of metric variables is known to be problematic in software packages like LISREL and EQS (Li *et al.*, 1998; Cortina *et al.*, 2001).

To assess the quality of the measures employed, we used SMARTPLS to estimate two measurement models. The first measurement model contains the TAM constructs whereas the second measurement model contains the moderating constructs. As all scales are reflective, unidimensionality, internal consistency reliability, convergent validity and discriminant validity are examined for each construct (MacKenzie *et al.*, 2005). Unidimensionality is evidenced by the fact that the first eigenvalue of the correlation matrix of the relevant items is greater than 1, and the second eigenvalue is less than 1 (Tenenhaus *et al.*, 2005). For all

constructs the internal consistency estimate exceeds the recommended cut-off level of 0.60 (Nunnally and Bernstein, 1994). The item loadings (smallest loading 0.49) and the average variance extracted values support the convergent validity of each scale. Finally, as the square roots of the average trait variance extracted values of the involved constructs exceed the correlation coefficient between the respective constructs, proof for discriminant validity is obtained (Fornell and Larcker, 1981). Table 1 summarizes the relevant statistics regarding the evaluation of the psychometric properties.

[PLEASE INSERT TABLE 1 ABOUT HERE]

To reduce the impact of multicollinearity due to the interaction terms, and to maintain a more favorable ratio of parameter to sample size, the structural model aimed at explaining attitude towards online complaining is estimated separately for (1) the situational and (2) the individual moderators. As the variables for the individual characteristics and the situational characteristics are not significantly correlated, this decision will not affect the results (Greene 1997). To include the interaction effects in our model we followed the PLS-PS approach suggested by Goodhue *et al.* (2007). Bias-corrected percentile bootstrap confidence intervals ($J = 5,000$) are constructed to assess the significance of the parameters (Preacher and Hayes, 2008). The empirical results pertaining to our study are presented in Table 2.

[PLEASE INSERT TABLE 2 ABOUT HERE]

Analytical results

Overall, our results indicate that the TAM framework is valuable in explaining consumers' attitudes and intentions to engage in online complaining (minimum $R^2 = 41\%$). As

anticipated, all hypotheses relating to the general structure of TAM (H1-H4) are supported by the data.

For the hypothesized moderator effects of individual characteristics (H5 and H6), it is important to discern between the formation of customers' attitude towards online complaining and their intentions to use such systems.

Starting with the hypothesized moderator effects of novelty seeking (H5), we find that regarding customers' attitude towards online complaining the moderating effect of novelty seeking is supported by the data for all beliefs. Interestingly, the signs of the significant effects are in line with the moderator effects suggested by the consumption value perspective and not with the willingness/ability to exert cognitive effort perspective. More specifically, customers who score high on novelty seeking attach significantly more weight to ease of use (β = 0.13; 95% CI [0.18; 0.23]) and enjoyment (β = 0.10; 95% CI [0.01; 0.20]) in forming an attitude towards online complaining. Regarding usefulness, customers with a higher score on novelty seeking are likely to weight usefulness beliefs (β = -0.14; 95% CI [-0.27; -0.01]) less heavily in the attitude formation. Turning to the translation of attitudes into online complaining usage intentions, contrary to our thinking we find that novelty seeking does not moderate this relationship (H5d is not supported).

Regarding the moderator effects of customers' need for social interaction (H6), we find that only the relationship between usefulness and attitude towards online complaining is moderated by an individual's need for social interaction (β = 0.14; 95% CI [0.02; 0.27]). Again, we find that the sign of this effect is in line with the consumption value perspective and not with the willingness/ability to exert cognitive effort perspective. The relationship between attitude and respectively ease of use and enjoyment is not moderated by the need for social interaction. Consequently, hypotheses H6a and H6c are not supported. Finally, the

relationship between attitude and online complaining intentions is not moderated by the customer's need for social interaction, implying that hypothesis H6d is not supported.

Proceeding with the results pertaining to the hypothesized moderator effects of intensity of dissatisfaction (H7) and outcome expectations (H8), we find that situational characteristics do not moderate the relationships between attitude and the different beliefs. Thus, hypotheses H7a, H7b, H7c (intensity of dissatisfaction) and hypotheses H8a, H8b, H8c (outcome expectation) are not supported. In contrast, the impact of attitude on customers' intentions to use online complaining is moderated by both intensity of dissatisfaction (β = 0.12; 95% CI [0.02; 0.27]; H7d is supported) and outcome expectations (β = -0.10; 95% CI [-0.21; -0.02]; H8d is supported with opposite sign).

DISCUSSION

Based on the empirical support for the basic TAM relationships, we can conclude that a customer's attitude towards using online complaining is both a function of their utilitarian (i.e. usefulness) and non-utilitarian (i.e. hedonistic) beliefs (ease of use and enjoyment) they have regarding online complaining. Closer inspection of the empirical results reveals that in developing an attitude towards online complaining, people are approximately equally influenced by utilitarian beliefs (usefulness [0.23; 0.49]) and non-utilitarian beliefs (combined effect of ease of use and enjoyment [0.19; 0.50]).

Following from the empirical support for hypotheses H5a-c (novelty seeking) and H6a-c (need for social interaction) and the lack of empirical support for hypotheses H7a-c (intensity dissatisfaction) and H8a-c (outcome expectations), we conclude that the attitude development process is influenced by individual characteristics but remains unaffected by situational characteristics. The fact that the latter finding contradicts Dabolkar and Bagozzi's (2002) finding, may be due to context.

Concerning hypotheses regarding the moderating effects of individual differences H5a-c (novelty seeking) and H6a-c (need for social interaction) all empirical results conflict with the hypothesized sign that would be expected when explaining elaboration likelihood from the perspective of willingness and ability to exert cognitive effort. This is particularly noteworthy, as this perspective is the dominant approach on elaboration likelihood used in the technology acceptance literature so far (see for instance Bhattacherjee and Sanford, 2006; Castañeda *et al.*, 2007). Apparently, the literature-suggested association between a person's ability and motivation to process information and individual differences is more intricate than we thought concerning technology acceptance. Although previous research showed that the ability and willingness to exert cognitive effort were well capable of explaining the individual differences in attitude formation towards technology it should be noted that the individual difference variables in those studies involved demographics and psychographics rather than affect-based personality traits as were used in the current study. In the following section we offer an explanation for our findings.

In line with novelty seekers' extrinsic motivation to engage in online customer complaining, it is conjectured that besides the task-oriented nature of online complaining they perceive it be a hedonic experience as well. This may explain that for higher levels of inherent novelty seeking, information processing occurs via a peripheral heuristic driven path in which the impact of perceived enjoyment and ease of use on attitude are weighted more heavily. Our empirical results confirm this by the positive coefficients for the interaction effects involving the more peripheral cues (i.e. ease of use and enjoyment) and the negative coefficient for the interaction effect of usefulness and novelty seeking. Overall, the net effect is that with higher levels of inherent novelty seeking, the process variables gain importance (per unit change in novelty seeking, the influence on attitude of the combined effect of ease of use and enjoyment changes by 0.23 [0.06; 0.38]. Finally, the outcome variables become less influential (per unit

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change in novelty seeking, the influence of performance on attitude changes by -0.11 [-0.46; -0.17]).

The consumption value perspective also explains the positive moderating effect for of hypothesis H6b regarding the moderating influence of need for social interaction on the relationship between usefulness and attitude towards online complaining. The notion of central processing is evidenced by the positive coefficient for the moderating effect of need for social interaction on the relationship between usefulness and attitude towards online complaining, which implies that individuals with a high need for social interaction attach more weight to utilitarian aspect such as usefulness than to hedonic aspects in their attitude development. As noted by Dabholkar and Bagozzi (2002), consumers with a high need for social interaction tend to avoid technology-based self-service modes, whereas consumers with a low need for social interaction tend to seek self-service opportunities like online complaining. Thus, building on the work of Babin *et al.* (1994) it can be stated that because customers scoring high on need for social interaction will gain more consumption value from the instrumental characteristics online complaining offers than from its experiential features due to their aversion to complaining via a channel that lacks personal interaction with the company. People with a high need for social interaction will, because of their utilitarian consumption value, use the central route in developing an attitude towards online complaining.

The attitude formation process is a function of a consumer's personal characteristics, but remains stable across situations. The empirical results regarding the relationship between attitude and intention to engage in online complaining show the opposite pattern. The effect of attitude on behavioral intentions is moderated by situational factors but is independent from individual customer characteristics. Similar to contexts in which customer complaining is not technology based (see for example Singh and Pandya 1991), our results show that the

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intensity of a customer's dissatisfaction positively moderates the relationship between attitude and intention to engage in online complaining. Thus, more intense feelings of dissatisfaction increase the likelihood of having a positive mind set towards filing a complaint electronically. Contrary to our expectations, we find that the outcome expectations customers have regarding online complaining, negatively influence the magnitude of the relationship between attitude and behavioral intentions. A possible explanation for the negative moderator effect could be that factors besides attitude play a vital role in forming intentions to use online complaining. However, the negative moderator effect should be balanced against the significant direct effect of outcome expectations on usage intentions.

Finally, the significant main effects for the individual and situational characteristics show that affective processes also play a role in consumers' reactions to online complaining and can therefore be interpreted as additional evidence that attitude development results from both cognitive and affective components (Kulviwat *et al.*, 2007).

IMPLICATIONS

The fact that most dissatisfied customers do not complain makes it hard for service managers to reduce customer dissatisfaction and/or improving complaint. Not only is the firm deprived the possibility to restore justice and retain the customer, but they also lose out on the possibility to correct the cause of the problem. We believe that firms must explore any measure that will make it easier for customers to complain. In this paper we have illuminated the adoption and use of an on-line complaining system. With the advent of Web-based services and mobile applications, understanding the drivers of intention to adopt an on-line solution, is vital for successful implementation.

Yelp.com and Angie's List are but two examples of web-based services where customers – satisfied or dissatisfied – can vent their frustrations or express their satisfaction with named

service providers. From this, we can learn that customers are able and willing to express and share their experiences. The challenge is to funnel this energy back to the faulting firms allowing them to restore justice (i.e. a service failure) and to identify the root cause of the problem. The best-known example of a firm thinking along these lines is British Airways richly described in an often used Harvard Business School case[1]. Amazon.com uses artificial intelligence in handling customer complaints. Incoming electronic complaints are "read" by a system looking for key words in the text. By comparing key words to a database of similar cases, the system returns a "best" response to the complainer followed by a note informing the recipient that the note is an auto response. If the response is not 100% to the point, the system invites the recipient to return the email which then will be handled manually. Finally, Hewlett Packard handles all incoming requests – positive or negative - manually from customers. Apparently, firms have different solutions to the same challenge: stimulate customers to contact the firm allowing them to learn, correct, and improve. Losing a customer due to dissatisfaction, can be very costly to the firm, something Hogan, Lemon and Libai (2003) documented in their award-winning study.

For firms, implementing online complaining is an argument for improving customers' cost-benefit ratio when dissatisfied customers decide to make a complaint or not. For service employees and their managers, online complaining is a promising tool in their efforts to avoid losing customers. First, it offers an accessible channel for customer complaints thereby increasing the likelihood that customers actually voice their frustration. It is only when there is a complaint that companies and the front line employees can relate to it, learn from it, and hopefully rectify it. An improved incentive to make a complaint (e.g. improved cost-benefit ration) will provide the company with more opportunities to learn about and respond to

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[1] British Airways: Using Information Systems to Better Serve the Customer, by W. Earl Sasser Jr., and Norman Klein, Harvard Business School Press.

dissatisfied customers, and thereby avoid losing them. Second, current technology may assist in resource allocation and decision making as it can automatically sort, prioritize complaints, and provide an automatic response thus saving time. Over time, managers can build a data base allowing for root-cause analyses of why customers complain. Finally, as complaints are made electronically managers can more efficiently develop a root-cause analyses for why things go wrong and direct their attention to the appropriate operational issues which cause things to go wrong.

The results of our study may help service managers in promoting online complaining among their customers. In general, our results indicate that both expected outcome and process elements play a significant role in forming attitudes towards online complaining. Although the weights attached to the various beliefs are influenced by individual characteristics, customer evaluations regarding online complaining remain a function of both expected outcome elements, and process elements. Our results show that in trying to persuade customers to engage in online complaining, the promotion message should be increasingly outcome oriented, the higher the inherent negative affect of individuals regarding technological service encounters.

The importance of our findings is also illustrated by the fact that customers' attitudes towards online complaining are the main factor driving intentions to actually use online complaining. Moreover, the transformation from attitude into actual usage intentions is not complicated by differences in customers, as indicated by the absence of moderating effects caused by customer trait variables.

From our study it is apparent that situational conditions influence online complaining usage intentions both directly and indirectly. The positive direct effect of outcome expectations on behavioral intent reveals that online complaining usage may be encouraged by making customers aware that using online complaining will benefits them. Furthermore,

our results show that the relationship between attitude and behavioral intent is strengthened by increases in the level of dissatisfaction. As evidenced by the work of Smith and Bolton (2002), this moderating effect has important implications for the firm's customer retention efforts. More specifically, Smith and Bolton (2002) show that increasing levels of dissatisfaction cause customers to pay more attention to the recovery process and that to restore their satisfaction, service performance and distributive justice should be emphasized.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

As our study is limited to one setting we stress caution regarding generalizing from it. Future research should explore the issues introduced in our study over a broader set of services, as our study focused on only the travel industry.

Second, our study relied on the use of scenario-based surveys. Although this approach has strong precedent and the realism of the used scenarios was confirmed by our data, different methods should be employed to confirm and possibly extend the conclusions of our study. Key drawbacks of using scenario-based surveys include the greater likelihood of demand effects and the possible inability of participants to project their feelings and to respond as if they actually would in a real situation (see also McCollough *et al.*, 2000).

Third, as online complaining offers a relatively new channel for customers to voice their frustration it would be valuable to analyze how customers' perceptions regarding recovery efforts vary across online and offline channels. For instance, more research is necessary on the effect of recovery strategies on transaction and cumulative satisfaction. Although considerable effort researching this issue in an off-line setting has been made (see for example Tax *et al.*, 1998; Maxham and Netemeyer, 2002; Matos *et al.*, 2007), the results of that research cannot be extrapolated directly to online settings (Holloway and Beatty 2003).

Fourth, our study did not allow customers to choose among different channels. Extending our work to include customer choice among different channels is especially relevant as Mattila and Wirtz (2004) demonstrate that in case of service failure the channel customers chose to express their dissatisfaction varies as a function of their complaint motivation.

Finally, according to Oliver (1997) two dominant models predict customer complaint: the economic model and the behavioral model. The economic model concerns cost-benefit evaluations by customers when they decide whether to complain; the behavioral model concerns customers' ability and willingness to complain. From the behavioral model we may learn that despite a strong incentive or motivation to complain, the customer may lack the ability (knowledge of channels, access to channels, or communication skills) to complain.

APPENDIX A: SCENARIO

E-complaining to a tour operator

You have booked a package tour from a well-known tour operator through your local travel agency. During your vacation you are not satisfied with the services that were provided to you.

Scenario 1   The hotel room was full of cockroaches and you found hair in your bed.

Scenario 2   The hotel was of a lower quality than promised in the brochures you saw and there was no car rental arranged for you.

After your arrival back home you decide that you should complain. You know that your local travel agency is not responsible for the inconvenience since it was only the seller of the package holiday. Therefore, you decide to complain directly to the tour operator.

Since the tour operator sells holidays exclusively via third parties such as independent travel agencies, you can complain only via the company's website, i.e. make use of e-complaining.

Please note that no direct face-to-face or telephone complaining is possible!

To complain via the website, you simply have to click on "draft a complaint" in the section "customer services" that you can find on the welcome page. A sophisticated tool on the website (like Microsoft Window's wizard for installing new software) then guides you through the process of complaining. It gives you clear instructions and assists you with designing an effective complaint message step-by-step. Furthermore, it ensures that you include all necessary information and provides you with ready-made problem descriptions and phrases so that you can create an objective, clear, and sound complaint message very quickly. You can print out the finished message for your own administration and transfer it to the company's customer service team by clicking on "send complaint". You will receive an e-mail confirming that the company received the complaint and will work on it.
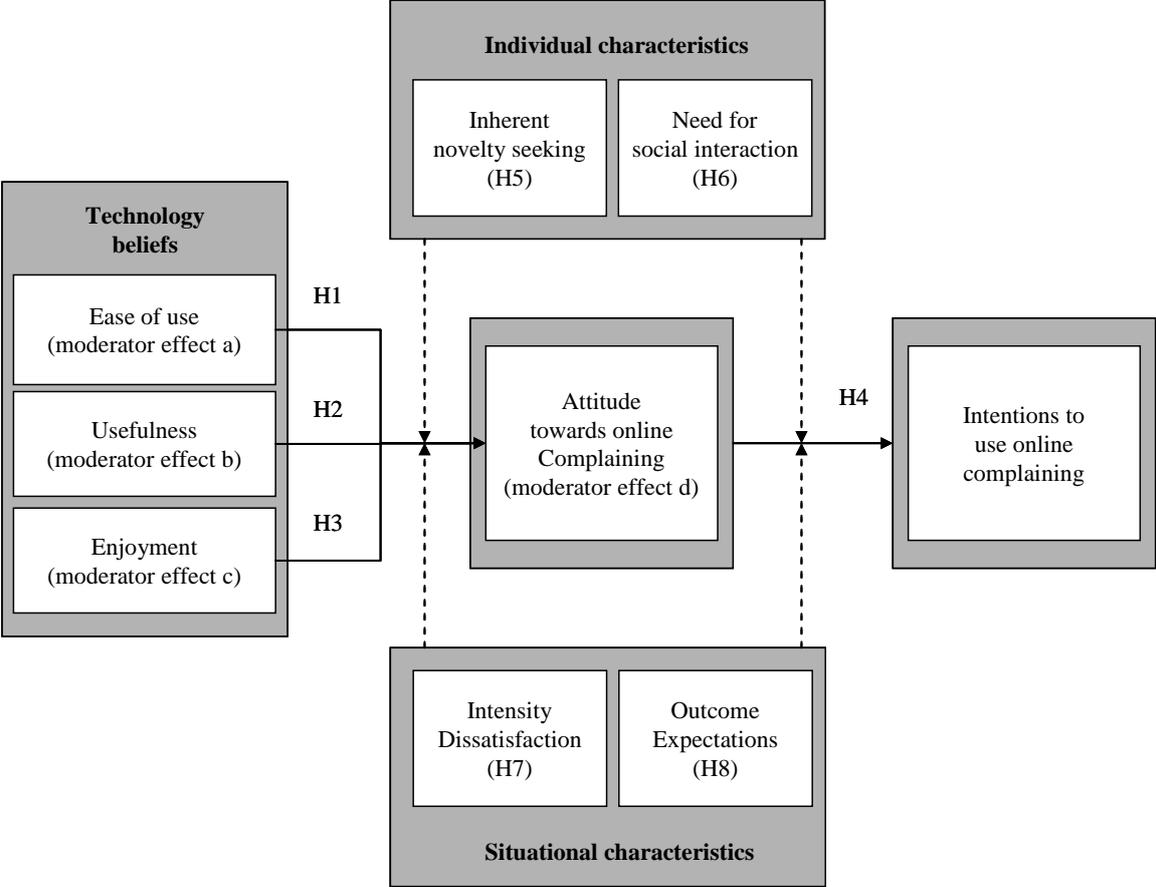
FIGURE 1: CONCEPTUAL FRAMEWORK

	Mean	S.D.	λ_1	λ_2	Alpha	AVE	1	2	3	4	5	6	7	8	9
1 Ease of use	6.09	0.77	2.36	0.34	0.87	0.70	**0.84**								
2 Usefulness	4.63	1.18	1.70	0.83	0.67	0.41	0.26	**0.64**							
3 Enjoyment	3.05	1.43	2.24	0.53	0.86	0.67	-0.02	0.13	**0.82**						
4 Attitude	4.75	1.30	2.51	0.28	0.94	0.84	0.30	0.55	0.32	**0.91**					
5 Intentions	5.50	1.33	1.68	0.32	0.91	0.83	0.33	0.43	0.26	0.66	**0.91**				
6 Novelty seeking	4.78	1.10	1.64	0.36	0.93	0.87	0.28	0.05	-0.04	0.08	0.16	**0.93**			
7 Need social interaction	5.04	1.35	2.17	0.55	0.83	0.67	-0.13	-0.38	-0.23	-0.52	-0.34	0.07	**0.82**		
8 Intensity dissatisfaction	7.78	1.59	n.a.	n.a.	n.a.	n.a.	0.06	0.03	-0.03	0.05	-0.04	0.03	0.05	**n.a.**	
9 Outcome expectations	4.25	1.20	1.72	0.78	0.69	0.53	0.02	0.09	0.10	0.07	0.18	-0.09	0.02	-0.08	**0.73**

TABLE 2: PARAMETER ESTIMATES STRUCTURAL MODEL

DEPENDENT VARIABLE	INDEPENDENT VARIABLE	COEFFICIENT	CONFIDENCE INTERVAL
Attitude ($R^2 = 0.533$)	EASE OF USE	0.17	[0.06 ; 0.27]
	USEFULNESS	0.37	[0.23 ; 0.49]
	ENJOYMENT	0.18	[0.09 ; 0.29]
	NOVELTY SEEKING	*ns*	*ns*
	SOCIAL INTERACTION	-0.32	[-0.46 ; -0.17]
	EASE*NOV	0.13	[0.18 ; 0.23]
	EASE*SOC	*ns*	*ns*
	USE*NOV	-0.14	[-0.27 ; -0.01]
	USE*SOC	0.14	[0.02 ; 0.27]
	ENJ*NOV	0.10	[0.01 ; 0.20]
	ENJ*SOC	*ns*	*ns*
Attitude ($R^2 = 0.410$)	EASE OF USE	0.18	[0.07 ; 0.29]
	USEFULNESS	0.28	[0.31 ; 0.59]
	ENJOYMENT	0.46	[0.12 ; 0.44]
	INTENSITY DISSATISFACTION	*ns*	*ns*
	OUTCOME EXPECTATIONS	*ns*	*ns*
	EASE*INT	*ns*	*ns*
	EASE*OUT	*ns*	*ns*
	USE*INT	*ns*	*ns*
	USE*OUT	*ns*	*ns*
	ENJ*INT	*ns*	*ns*
	ENJ*OUT	*ns*	*ns*
Intentions ($R^2 = 0.497$)	ATTITUDE	0.65	[0.04 ; 0.77]
	NOVELTY SEEKING	0.11	[0.06 ; 0.21]
	SOCIAL INTERACTION	*ns*	*ns*
	INTENSITY DISSATISFACTION	*ns*	*ns*
	OUTCOME EXPECTATIONS	0.15	[0.02 ; 0.27]
	ATT*NOV	*ns*	*ns*
	ATT*SOC	*ns*	*ns*
	ATT*INT	0.12	[0.02 ; 0.27]
	ATT*OUT	-0.10	[-0.21 ; -0.02]

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