Technology-Based Customer Complaining:

Understanding the Adoption Process and the Role of Individual and Situational Characteristics

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ABSTRACT

Purpose. To better understand the formation of customer attitudes and intentions to use technology-based customer complaining (TBCC) and the influence of individual and situational characteristics in this process.

Design / Methodology / Approach. Building on information systems research (Technology Acceptance Model (TAM)) and consumer research (Elaborate Likelihood Model (ELM)), a conceptual framework was developed. Survey data were analyzed using structural equation modeling techniques.

Findings Customer's attitudes and TBCC usage intentions are explained by outcome and process characteristics. Attitude towards TBCC is also influenced by individual characteristics, but remains unaffected by situational characteristics. TBCC usage intentions are influenced by situational characteristics, but do not depend on individual differences. Surprising results were obtained for the moderating effects of individual differences in attitude formation.

Research implications Regarding the moderating effects of customer personality traits our study points to an interesting finding. The often used approach that aims to explain individual differences in information processing as a function of an individual's ability to exert cognitive effort does not adequately predict the moderating influence of more affect-based characteristics in technology acceptance (opposite signs were consistently evidenced). Rather the consumption value perspective to information processing applies for these variables. This finding is important and future research is needed to further examine these seemingly conflicting results.

Practical implications The results of our study may help managers how to promote TBCC usage. This is relevant as TBCC may offer a new possibility to learn about and interact with dissatisfied customers.

Originality / Value Despite our knowledge that effective service recovery management should be a key strategy for all companies, research aimed at understanding customers'

acceptance of new channels to voice frustration is scant. This is particularly relevant as most customers defect when confronted with service failures.

Keywords: Complaint Management, Technology Acceptance, Services Management

Classification: Research paper

1. INTRODUCTION

Recently there has been an accelerating growth in and use of self-service technology (SST), technical interfaces that allow customers to perform entire services without assistance from service employees (Meuter and Bitner, 1998). A recent application of SST is in e-complaining, which uses technology-based customer complaint systems (TBCC) connecting the customer directly to the faulting firm. Usually this involves a step-by-step procedure by which dissatisfied customers can produce an online complaint that is instantly sent to those responsible within the firm. TBCC is in keeping with e-service and therefore has the potential to improve customer service (Rust and Kannan, 2003; 2002), customer convenience (Berry et al., 2002), and to reduce costs through automation (Blumberg, 1994).

Understanding issues pertaining to dissatisfied customers' adoption and use of TBCC is significant as such systems – because they offer an improved cost-benefit ratio over regular complaining – have the potential to develop into an instrument that may stimulate customers to voice their frustration (Oliver, 1997). Surprisingly, most dissatisfied customers do not communicate their dissatisfaction to the firm (Andreassen, 1997), and generally change patronage (Keaveney, 1995). Increasing the probability that dissatisfied customers will complain has important implications in terms of the firm's customer retention rate and customer equity (Rust et al., 2000).

Despite the practical and academic relevance of this topic (Venkatesh et al., 2003), very little research has been done in this area. The purpose of this paper is to fill this gap in the literature by a) developing and testing a conceptual model for understanding customer adoption of technology-based complaining options and b) testing the impact of personality and situational variables on the intention to use TBCC. From our research one finding of significant importance stands out. The often used explanation that differences in information processing stem from differences in the individual's ability to process information does not

adequately predict the moderating influence of more affect-based characteristics in technology acceptance (opposite signs were evidenced). Rather the consumption value perspective to information processing applies for these variables.

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

2. CONCEPTUAL MODEL

In Figure 1 we summarize the conceptual model guiding our empirical study on the adoption of TBCC.

[PLEASE INSERT FIGURE 1 ABOUT HERE]

Our point of departure for studying TBCC 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). In line with Dabholkar and Bagozzi (2002) who claim that this original definition of usefulness does not apply in SST contexts, usefulness in a TBCC 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 TAM model (for reviews on TAM see King and He, 2006; Schepers and Wetzels, 2007; Venkatesh et al., 2003), the hypotheses comprising our core attitudinal model are:

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

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

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

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

2.1 The need for assessing moderating effects

Empirical evidence suggests that the predictive power of the TAM's basic form may be greatly enhanced by the inclusion of 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 TBCC. 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 (Agarwal and Prasad, 1998; Liska, 1984; Medsker et al., 1994).

For example, two persons may hold similar beliefs but the impact of these beliefs on the development of attitudes and behavioral intentions may vary as a consequence of differences in the persons' utility functions. Likewise, situational factors have been shown to influence the magnitude and direction of the relationships constituting the technology adoption process (Bhattacherjee and Sanford, 2006; Dabholkar and Bagozzi, 2002; Lee et al., 2005). Therefore, the identification of situational factors that moderate the technology adoption process is relevant because it allows us to identify conditions that can be anticipated. Recent studies (see for example Castañeda et al., 2007; Park and Yang, 2006; Rodgers et al., 2005) 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.

2.2 The Elaboration Likelihood Model (ELM) and the Technology Acceptance Model (TAM)

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.

Put differently, 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, whereas marginal, peripheral cues or beliefs are the focal point in the peripheral route. While perceived usefulness in Davis' (1989) TAM model is considered a non-heuristic or utilitarian belief, ease of use and enjoyment are considered as more peripheral beliefs (Castañeda et al., 2007; Park and Yang, 2006; Rodgers et al., 2005). In line with the ELM, we therefore posit that for individuals whose attitudes are formed via the central route, the relationship between usefulness and attitude towards TBCC 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).

Regarding the part of our conceptual model describing the positive relationship between the translation of attitude toward and TBCC usage intentions, it is relevant to stress that the central route leads to more stable attitude formation than the peripheral route. According to Petty and Wegener (1996) results a more stable attitude in a stronger link between attitude and behavioral intentions (this is reflected in part (d) of our hypotheses).

The likelihood that attitude formation occurs via the central route rather than the peripheral route is positively related to an individual's level of motivation and ability. This implies that situational and individual differences associated with the ability and motivation to exert cognitive effort are important determinants in explaining the nature of the attitude

formation process (Petty and Wegener, 1999). Consequently, in building our hypotheses below regarding the moderating effects of individual and situational characteristics in TBCC acceptance, we aim to argue a plausible relationship between the relevant moderator variable and an individual's motivation and/or ability to process information related to TBCC usage.

2.3 Individual characteristics

Inherent novelty seeking is defined as the degree to which an individual is receptive to new ideas (Hirschman, 1980; Midgley and Dowling, 1978). 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 trait that is a relatively stable descriptor of individuals; it is found to be invariant across situational considerations (Robinson et al., 2005).

Highly innovative individuals usually engage in more extensive and elaborate information searches (Agarwal and Prasad, 1998; Robinson et al., 2005). Finally, because they are usually experts in the domain (Lafferty et al., 2005) innovators are usually likely to conduct in more extensive and elaborate information searches. Therefore, we hypothesize:

Hypothesis 5: Because individuals characterized by higher levels of inherent novelty seeking are more likely to form attitudes towards TBCC usage via the central route:

a) the relationship between perceived ease of use and attitude towards TBCC will be attenuated
b) the relationship between perceived usefulness and attitude towards TBCC will be strengthened

c) the relationship between perceived enjoyment and attitude towards TBCC will be attenuated
d) the relationship between attitude towards TBCC and the intention to use TBCC will be strengthened.

According to Dabholkar (1996), *need for social interaction* is defined as "the importance of human interaction to the customer in service encounters." 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). People needing social interaction will see less face-to-face interaction as inferior to more. From a psychological viewpoint person-to-person contact with a service employee might be rewarding as it will lead to a dialogue and social interaction. Since service employees help in defining the problem, some individuals may consider person-to-person communication to be the easiest way of complaining. 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.

According to the ELM model, in a technology acceptance context, people with a lower motivation are more influenced by the peripheral route when forming their attitudes towards new technologies.(Bhattacherjee and Sanford, 2006). Consequently, we hypothesize:

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

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

b) the relationship between perceived usefulness and attitude towards TBCC will be attenuated
c) the relationship between perceived enjoyment and attitude towards TBCC will be strengthened
d) the relationship between attitude towards TBCC and the intention to use TBCC will be attenuated.

2.4 Situational Characteristics

Greater intensity of dissatisfaction is associated with higher levels of perceived inequity. 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). In line with Monge et al. (1992) we expect that the feeling of inequity motivates a customer to solve the resulting tension by using TBCC (Monge et al., 1992). A similar argument is offered by Oliver (1997) who states that as dissatisfied customers begin in a deficit situation, i.e. the sum of monetary outlays and psychological costs exceeds the benefits of the situation, a strong incentive to complain is present.

From Heider (1958) and Weiner (1986), we know that dissatisfied customers spend time thinking about locus, control, and stability of the service failure before making a complaint. In summary we will claim that for a dissatisfied customer to decide to complain requires a substantial amount of cognition. 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. Hence, we put forward the following hypothesis:

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

a) the relationship between perceived ease of use and attitude towards TBCC will be attenuated
b) the relationship between perceived usefulness and attitude towards TBCC will be strengthened
c) the relationship between perceived enjoyment and attitude towards TBCC will be attenuated
d) the relationship between attitude towards TBCC and the intention to use TBCC will be strengthened.

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). An person's beliefs about the consequences of specific actions predict whether that person takes these actions (Monge et al., 1992). Consequently it is assumed that a customer's inclination to complain will depend on what they perceive to be their chances of success in complaining. From this we can conclude that a customer who considers complaining will perform a cost-benefit analysis, however brief and rudimentary, before undertaking complaining action. This concept of inner pro-contra argumentation that needs to be resolved before a person can reach a decision is explored by Ding (2007) in his award-winning article on intraperson games. 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 TBCC, the more

involved a person will be in TBCC. As a high degree of involvement is associated with increased elaboration likelihood or central processing, we therefore hypothesize that:

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

a) the relationship between perceived ease of use and attitude towards TBCC will be attenuated
b) the relationship between perceived usefulness and attitude towards TBCC will be strengthened
c) the relationship between perceived enjoyment and attitude towards TBCC will be attenuated
d) the relationship between attitude towards TBCC and the intention to use TBCC will be strengthened.

3. METHODOLOGY

3.1 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 (McCollough, Berry, and Yadav, 2000; Smith, Bolton, and Wagner, 1999; Smith and Bolton, 1998; Dubé and Maute, 1998) as they eliminate difficulties with the observation of service failure / recovery incidents 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.

Respondents were randomly assigned 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, $p < 0.0001$). It should be noted that 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.

3.2 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 (Cortina et al., 2001; Li et al., 1998).

The quality of the measures employed in our study is assessed by using 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 (Nunnaly 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 TBCC 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, Lewis, and Thompson (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]

3.3 Analytical results

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

Starting with the hypothesized moderator effects of novelty seeking (H5), we find that regarding customers' attitude towards TBCC the moderating effect of novelty seeking is supported by the data for all beliefs, yet the significant effects carry the opposite sign as put forward in hypothesis H5. More specifically, customers who score high on novelty seeking attach significantly more weight to ease of use ($\beta = 0.13$; 95% CI [0.18; 0.23]; H5a is supported with opposite sign) and enjoyment ($\beta = 0.10$; 95% CI [0.01; 0.20]; H5c is supported with opposite sign) in forming an attitude towards TBCC. Regarding usefulness, customers with a higher score on novelty seeking are likely to weight usefulness beliefs ($\beta = -0.14$; 95% CI [-0.27; -0.01]; H5c is supported with opposite sign) less heavily in the attitude formation. Turning to the translation of attitudes into TBCC usage intentions, we find that novelty seeking does not moderate this relationship (H5d is not supported).

Turning to the moderator effects of customers' need for social interaction (H6), we find that only the relationship between usefulness and attitude towards TBCC is moderated by

an individual's need for social interaction (β = 0.14; 95% CI [0.02; 0.27]; H6b is supported). Yet again, the sign of this effect is opposite to the hypothesized sign. 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 TBCC usage intentions is also 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 TBCC 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).

In the next section will discuss our empirical results. For an overview of our hypothesis tests, we summarized the main conclusions per hypothesis below in table 3.

[PLEASE INSERT TABLE 3 ABOUT HERE]

4. DISCUSSION

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

[0.23; 0.49]) and the more 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), it can be concluded that the attitude development process is influenced by individual characteristics but remains unaffected by situational characteristics. The latter finding is interesting as it contradicts Dabolkar and Bagozzi's (2002) finding

To our surprise hypotheses H5a-c (novelty seeking) and H6a-c (need for social interaction) all empirical results conflict with the hypothesized sign. Apparently, the literature suggested association between a person's ability and motivation to process information and individual differences is more intricate than we thought. 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. A possible explanation for our unanticipated findings can be found in the consumption value literature.

According to the consumption value literature consumers' usage decisions are driven by hedonic and utilitarian components, which play a key role in predicting further behavior (Babin et al., 1994). Also with specific regard to technology adoption, the distinction between hedonic and utilitarian consumption holds as shown by Venkatesh and Brown (2001), Childers, Carr, Peck, and Carson (2001) and Hartman, Shim, Barber, and O'Brien (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). Previous research revealed that a person's consumption value influences information processing (Shiv and Fedorikhin, 1999) and therefore the attitude development process. In terms of the ELM model, individuals follow the peripheral route when their consumption value is hedonic or experiential, thus relying more on process variables such as ease of use and enjoyment. However, a utilitarian consumption value is associated with rational processing, i.e. the central route, implying a larger impact of outcome variables on attitude (Castañeda et al., 2007; Sivaramakrishnan et al., 2007).

According to the insights of the consumption value theory outlined above, the unanticipated empirical results for hypotheses H5a-c (novelty seeking) can be explained as follows. Novelty seekers are intrinsically motivated to use a new technology and their inherent enjoyment in trying new ways to deal with situations will lead them to adopt technology-based complaining regardless of its actual relative advantages (Dabholkar and Bagozzi, 2002). In line with novelty seekers' emphasis on entertainment and emotional attraction, it is conjectured that with regard to TBCC a hedonic consumption value applies; thus, novelty seekers follow a peripheral route in their attitude development towards TBCC. 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]), whereas outcome variables become less influential (per unit change in novelty seeking, the influence of performance on attitude changes by -0.11 [-0.46; -0.17]).

Likewise, the consumption value perspective allows us to explain the unexpected positive moderating effect for of hypothesis H6b regarding the moderating influence of need for social interaction on the relationship between usefulness and attitude towards TBCC. 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 TBCC. 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 TBCC offers than from its experiential features due to their aversion to complaining via a channel that lacks personal interaction with the company. Because of their utilitarian consumption value, people with a high need for social interaction will use the central route in developing an attitude towards TBCC. 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 TBCC, 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.

Whereas for personality traits opposite effects in the attitude development process are predicted depending on using either the ability to exert cognitive effort approach or the consumption value approach to information processing, this is not the case for the situational effects. The cognitive effort perspective to information processing hypothesizes a higher likelihood of elaboration (i.e. higher probability to perform central processing) for both more intense feelings of dissatisfaction and higher expected outcomes associated with a complaint action. Applying the consumption value perspective leads to the same hypothesis. Regarding intensity of dissatisfaction, the consumption value perspective would offer the following explanation concerning a person's information processing style. As dissatisfaction intensifies,

perceived inequity will increase. In line with Goodwin and Ross (1992), customers who perceive inequity have a task-related orientation to resolve it. Task-related behavior characterizes a utilitarian consumption value, which is associated with central processing. For outcome expectations, Wegener and Petty's (1994) hedonic contingency hypothesis, stating 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. TBCC).

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 TBCC 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 intensity of a customer's dissatisfaction positively moderates the relationship between attitude and intention to engage in TBCC. Thus, more intense feelings of dissatisfaction increase the likelihood of having a positive mind set towards filing a complaint electronically. Our results indicate that this will translate into actual behavior. Contrary to our expectations, we find that the outcome expectations customers have regarding TBCC negatively influence the magnitude of the relationship between attitude and behavioral intentions. However, because outcome expectations are clearly of primary importance in positively effecting behavioral intent, one must conclude that people who are more optimistic of success when engaging in TBCC will have greater intentions to use TBCC. A possible explanation for the negative moderator effect could be that factors besides attitude play a vital role in forming intentions to use TBCC.

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

5. IMPLICATIONS

Implementing TBCC is an argument for improved cost-benefit analyses when dissatisfied customers decide to make a complaint or not. For service employees and their managers, TBCC 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 front line employees can relate to it and hopefully rectify the situation. An improved incentive to make complaint (e.g. improved cost-benefit ration) will provide the company with more opportunities to learn about and respond to 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.

The results of our study may help service managers in promoting TBCC among their customers. In general, our results indicate that both expected outcome and process elements play a significant role in forming attitudes towards TBCC. Although the weights attached to the various beliefs are influenced by individual characteristics, customer evaluations regarding TBCC remain a function of both expected outcome elements, and process elements. Our results show that in trying to persuade to engage in TBCC, the promotion 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 TBCC are the main factor driving intentions to actually use TBCC. 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 TBCC usage intentions both directly and indirectly. The positive direct effect of outcome expectations on behavioral intent reveals that TBCC usage may be encouraged by making customers aware that using TBCC 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.

6. 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, Berry, and Yadav, 2000).

Third, as TBCC 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 Matos et al., 2007; Maxham and Netemeyer, 2002; Tax et al,. 1998), 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

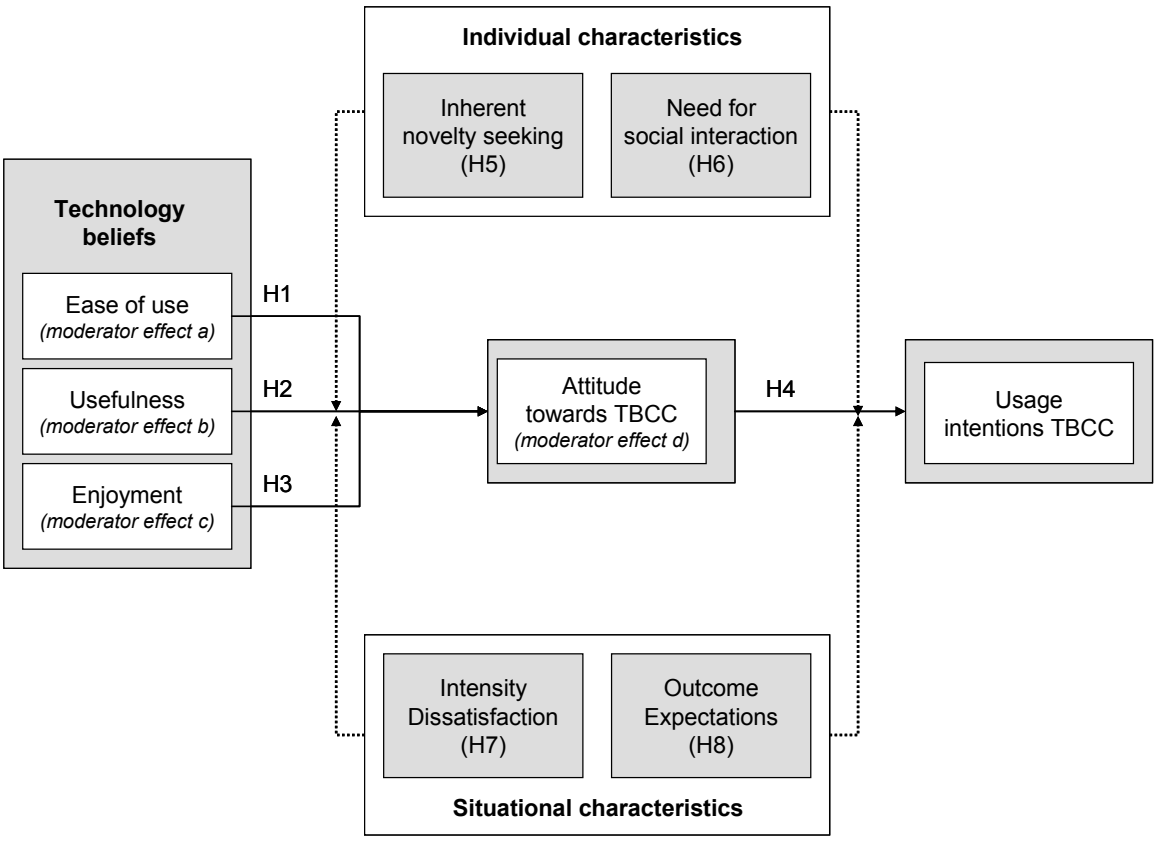

TABLE 1: DESCRIPTIVE STATISTICS AND SCALE EVALUATION

		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	EASE OF USE	0.17	[0.06 ; 0.27]
(R^2 = 0.533)	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	EASE OF USE	0.18	[0.07 ; 0.29]
(R^2 = 0.410)	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	ATTITUDE	0.65	[0.04 ; 0.77]
(R^2 = 0.497)	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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