

The Moderating Effects of Involvement on the Relationships Between Satisfaction, Trust and Commitment in e-Banking

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Abstract

Most prior research into customer loyalty emphasizes the effects of the dimensions of online satisfaction and trust. However, research into how customer involvement moderates this relationship model – in the online environment – has been less than conclusive. On the basis of a satisfaction–trust–commitment model, and given that involvement is a significant precondition to customer loyalty, this paper explores the interaction effects of customer involvement on the evaluation of e-banking services.

Empirical results were collected from an online survey in electronic financial forums, Usenet and mailing lists. Partial Least Squares (PLS) was used to estimate the parameters of the interaction effects model.

The results support most of the hypotheses and, in particular, confirm the moderating role of customer involvement. The influence of online satisfaction on commitment was significantly stronger for highly involved users; conversely, the effect of satisfaction on trust was weaker. However, customer trust had a stronger effect on commitment for customers with high purchase involvement, and a weaker effect for highly ego-involved customers. The interaction role of customer involvement thus offers a more complete view of the satisfaction–trust–commitment model, providing an initial test of the efficacy of using involvement to understand online decisions. Implications for online marketing management and future research in this area are discussed.

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Users increasingly rely on the Internet for information searches as well as purchase decisions and, consequently, develop long-term online relationships (Shankar, Smith and Rangaswamy 2003). However, the reluctance of many individuals to adopt electronic channels implies that research is needed to understand more comprehensively how customer loyalty can be engendered in online settings (Smith, Menon and Sivakumar 2005). Although online relationships between satisfaction, trust and commitment are similar to offline relationships in many ways, there are some important distinctions (e.g. Jarvenpaa, Tractinsky and Vitale 2000; Johnson 2007; Shankar, Smith and Rangaswamy 2003; Shankar, Urban and Sultan 2002). For instance, prior research proposes that online customers could be more likely to have a higher level of overall satisfaction because of information availability, convenience of shopping, and the stickiness of customized online interfaces. Conversely, customers are often highly uncertain about the risks at the time and their full consequences when

transacting online (Marcella 1999). Perceived risk is typically higher in online settings than offline. These specific issues are especially true for high-search goods — with financial risk and involvement, such as e-banking services, and are thus particularly relevant for this research (cf. Bart et al. 2005).

Looking at the relationships between customer loyalty, involvement and banks over the Internet, there are still very few studies that analyse these concepts. The perceived information-intensive, intangible, and impersonal characteristics of online financial services make the development of a genuinely loyal approach a strategic imperative. For instance, Reichheld and Schefter (2000) argue that trust and loyalty are even more important when serving customers through online settings. “Where relationships are built and maintained at distance and without personal interaction, the relevance of online trust is then amplified because of the inherent uncertainty” (Fassnacht and Köse 2007). Shankar, Smith and Rangaswamy (2003) also suggest that the satisfaction–loyalty relationship is more complex than current theory would indicate. In particular, there has been no conclusive research into the differences in the

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role of online loyalty across different customer segments (Bart et al. 2005). Research shows that customer involvement could influence this relational process, since every customer is not prone to be loyal *per se*. Given that customer involvement is a significant precondition to loyalty (e.g. Beatty, Homer and Kahle 1988), e-banking managers could effectively enhance customers' online satisfaction–trust–commitment by targeting their underlying involvement.

Given that empirical studies on the interaction effects of involvement traditionally focus on traditional service settings – and accepting the distinctions between online and offline settings – the following questions are important: What form does the relationship between customer involvement and the satisfaction–trust–commitment approach take in the online environment? Principally, would the relationships between satisfaction, trust and commitment be stronger (or weaker) among high involvement customers compared to low involvement customers? This paper addresses these questions, and outlines the managerial implications, limitations and directions for future research.

Theory development and research hypotheses

Satisfaction, trust and commitment

Customer satisfaction is defined as the customer's perception of the extent to which their needs, goals and desires have been fully met (Oliver 1999). Research differentiates between transaction-specific satisfaction and cumulative satisfaction. Cumulative satisfaction is defined as “a channel member's positive affective response to the non-economic, psychosocial aspects of its relationship, in that the interactions with the exchange partner are fulfilling, gratifying, and easy” (Shankar, Smith and Rangaswamy 2003). As to the relationship between satisfaction and relationship commitment, conceptualizing satisfaction as the outcome of one single transaction – economic satisfaction – might be too restrictive (Lam et al. 2004).

Customer trust can be conceptualized as a psychological state that induces us to accept our own vulnerability, and is specifically based on favourable expectations regarding the intentions and behaviours of another party (Singh and Sirdeshmukh 2000; for a detailed review, Shankar, Urban and Sultan 2002). In particular, scholars/managers agree that trust is of higher importance in electronic channels compared with traditional service settings (Fassnacht and Köse 2007; Marcella 1999; Yoon 2002). For instance, risk/security concerns are *the most important hurdle* for many European customers (Meyer 2006).

Customer commitment can be defined as an enduring desire to maintain a valued relationship (Morgan and Hunt 1994); that is, *committed customers* could not be easily swayed by a slightly more attractive alternative (cf. Shankar, Smith and Rangaswamy 2003). Customer commitment would then have a similar meaning to affective/conative loyalty (Oliver 1999), and should, therefore, be evident in relational intentions (Lam et al. 2004). This paper therefore considers that commitment, like satisfaction and trust, is specific to the relationship.

Relationships between satisfaction, trust and commitment

Satisfaction reinforces the users' decision to participate in the delivery of the service, *hooking* them in. Satisfaction has been found to lead to desirable outcomes such as cooperation, long-term orientation, loyalty, and relationship commitment (Ganesan 1994; Lam et al. 2004). Satisfaction could exert an even stronger effect on customer loyalty online than offline; customers can “more readily bookmark the website and even store or place a future order with the service provider” (Shankar, Smith and Rangaswamy 2003). Moreover, satisfaction represents an evaluation of the object of trust and, therefore, would also be an antecedent to trust (Fassnacht and Köse 2007; Garbarino and Johnson 1999). Finally, trust has been considered as one of the antecedents of commitment – long-term orientation – (Geyskens et al. 1996). A relationship in which mutual trust exists between the parties will generate sufficient value for both parties to be prepared to maintain their commitment (Dwyer, Schurr and Oh 1987; Morgan and Hunt 1994).

Ego and purchase involvement

Involvement reflects the importance and personal relevance of an object or event (Barki and Hartwick 1994). Park and Young (1986) distinguish two types of involvement according to the underlying motives: ego involvement and purchase involvement (Bloch and Richins 1983). On the one hand, ego involvement (or enduring involvement) refers to the knowledge (familiarity and expertise) about the product or service category that a customer gains over time. Ego involvement is thus a function of past experience with the service and the strength of values relevant to the service (Rothschild 1979; Slama and Tashchian 1987). On the other hand, purchase involvement (or situational involvement) consists of the time, effort, and costs invested in making a purchase, including any internal and external research that may precede the transaction. Purchase involvement is goal-directed, and includes the individual's concerns for reducing the risk associated with the selection of services (Bloch and Richins 1983).

Relationships between involvement and the satisfaction–trust–commitment model

Customers with a high level of knowledge about the service tend to make better future purchase decisions, expending considerable effort in searching and information processing, which increases their level of satisfaction (Shaffer and Sherrell 1997; Yang et al. 2006). Firstly, if the service is an important part of the *customer's life*, high enduring involvement users will show a strong motivation to avoid post-purchase dissatisfaction (Beatty, Homer and Kahle 1988). Secondly, “in risky purchase situations, high situational involvement motivates consumers to spend considerable effort and time to make a wise choice (Houston and Rothschild 1978), because of careful search and deliberation, the motivation to feel satisfied is strong.” In particular, as Shankar, Smith and Rangaswamy (2003) propose, online customers will make better decisions (on average)

because of the improved search features. Easier access to online information could consequently increase satisfaction with electronic transactions. Customers with high involvement will, therefore, be especially motivated to experience satisfaction with online services.

Involvement allows customers to create expectations about the events that may occur (trust). Specifically, online trust includes customer perceptions of “how the site would deliver on expectations, how believable the site’s information is, and how much confidence the site commands” (Bart et al. 2005). Familiarity on the one hand, builds consistent expectations of websites that may positively affect trust in them (Yoon 2002). Whilst familiarity helps to reduce uncertainty in online transactions and relationships (Gefen 2000), high purchase involvement customers on the other hand, will seek information from *formal and informal* sources to reduce the level of perceived risk in online services, thereby increasing online trust.

Finally, since past behaviour is often a good predictor of future behaviours, ego involvement can also be expected to have a direct effect on a customer’s desire to transact with the e-banking service and maintain the relationship in the future. As Ganesh, Arnold and Reynolds (2000) state: “His/her psychological attachment to a brand will be stronger perhaps because of its hedonic value or its symbolic value for him/her.” On the other hand, Beatty, Homer and Kahle (1988) found that ego involvement positively influenced purchase involvement, which in turn influenced brand commitment. When customers are more concerned about their decisions, and more deeply engaged in the buying process, they are more inclined to establish strong preferences/loyalties.

The moderating effect of involvement

This paper discusses the interacting role of ego and purchase involvement, which could be expected to moderate customers’ interest in building satisfaction, trust and commitment. Firstly, customers who are *enduringly* interested in financial services are traditionally considered to be active information searchers and specifically, more willing to seek out relevant information — independent of specific service encounters. Ego-involved customers will regularly/easily visit different forums, Usenet, mailing lists, etc. in order to accumulate knowledge. Involvement will consequently increase the chance of cognitive activity, familiarity, and expertise, such that commitment will mainly be influenced by non-economic satisfaction — *i.e.* cumulative gratifying and easy interactions — rather than by expectations of what customers will receive from their e-bank. Furthermore, “the online medium will strengthen the relationship between overall satisfaction and loyalty”; for instance, easier access to e-banking features will reinforce the tendency to go back to a preferred financial service (Shankar, Smith and Rangaswamy 2003; *cf.* Oliver 1999).

The more experience customers have of being satisfied with their e-banking services, the more accessible the satisfaction-commitment link. Familiarity — with fulfilling routines and procedures for dealing with e-banking — could then constitute one type of *switching costs* because it will become useless if the

customer terminates the relationship (Lam et al. 2004). These arguments therefore lead to the following hypothesis:

H1. User’s ego involvement positively moderates (reinforces) the positive relationship between satisfaction and affective commitment

Purchase involvement customers will search cues related to a specific purchase in order to make the appropriate decision; for the improvement in efficacy and efficiency that it represents for the achievement of their purchase decisions. Given that the negative consequences of dissatisfaction are more critical when involvement is high, the motivation to terminate an unsatisfactory relationship will be strong; conversely, when cumulative encounters are satisfactory (gratifying and easy), reinforcement — and consequently commitment — will also be strong, because of the risk associated with purchases (Bayus 1992). This effect could be more likely in online settings because it is easier to search e-banking service features online than it is offline. To summarize, as the degree of purchase involvement increases, the relationship between satisfaction and commitment is strengthened. Therefore, the author proposes the following hypothesis:

H2. User’s purchase involvement positively moderates (reinforces) the positive relationship between satisfaction and affective commitment

Secondly, trust is especially crucial when two situational factors are present in an exchange relationship: (a) uncertainty (related to the perception of risk); and (b) asymmetry in the availability of information related to decision-making. Trust is consistently related to vulnerability; and serves as an economizing tool to reduce complexity and uncertainty. Mayer, Davis and Schoorman (1995) state that there is thus no need for trust if there is no risk in a situation.

Bitner (1995) argues that having a long-term relationship with a firm can reduce consumer stress as (a) the nature of the relationship becomes predictable, (b) initial problems are solved, (c) special needs are assumed, and (d) the consumer learns what to expect. Ego involvement will then act as a probable long-term uncertainty-reduction strategy. “An expert user of the Internet is more likely to have greater confidence on the Internet than a novice user” (Bart et al. 2005). Therefore, when familiarized/expert customers evaluate an e-banking service through fulfilling, gratifying and easy interactions (such as checking balances, transferring funds, paying bills, etc.), the need to trust — by developing affective commitment — will become less relevant. Conversely, customers will attribute greater value to cumulative satisfaction in building affective commitment (*cf.* H1). Therefore, the author puts forward the following hypothesis:

H3. User’s ego involvement positively moderates (weakens) the positive relationship between trust and affective commitment

Given the high potential for loss in the case of high involvement decisions, customers are more inclined to assign

greater weight to the dimensions of risk importance and risk probability in their decision-making (Pavlou, Liang and Xue 2007). Higher purchase involvement (reflecting the perceived risk of not being efficient in financial service decisions) would probably lead to browsing different e-banking services, financial communities, etc. – to compare prices, taxes or information – and make an optimal purchase decision. This effect is likely to be stronger in online banking compared with traditional banking, and in high involvement decisions – such as deciding on their current e-banking service provider – for which trust should be invoked.

Trust could then be an efficient criterion to assess and determine the extent to which one should engage in a relationship. As the degree of purchase involvement increases, the relationship between trust and commitment will be stronger. Therefore, the author proposes the following hypothesis:

H4. User's purchase involvement positively moderates (reinforces) the positive relationship between trust and affective commitment

Finally, higher purchase involvement customers will, then, tend to use risk reduction strategies (H4). These consumers often spend time and effort seeking/processing information to evaluate alternatives, and pondering relevant purchase decisions. Therefore, where the purchase involvement is high, customers will remain reluctant to engage with their e-bank if there is uncertainty over perceived customer value. In this way, trust beliefs will play a greater mediating role in facilitating the development and maintenance of long-term relationships. The higher the degree of perceived risk and, consequently, purchase involvement, the stronger the mediating role of trust between satisfaction and commitment (*cf.* H4). Conversely, ego involvement acts as a long-term uncertainty-reduction strategy, and the mediating effect of trust becomes less relevant (*cf.* H3). The author can summarize the arguments in the following hypotheses:

H5. User's ego involvement positively moderates (weakens) the positive relationship between satisfaction and trust

H6. User's purchase involvement positively moderates (reinforces) the positive relationship between satisfaction and trust

Methods and results

Study context and sample

The theoretical model has been validated through empirical research using a non-probabilistic, self-selection sampling method. The data was collected from a sample of online questionnaires between January 7, 2007 and March 27, 2007 and the data collection process was designed to list the questions in a random order for each participant, avoiding potential systematic biases in the data and other cognitive consistency patterns.

This research selected customers of e-banking services that use the web browser for the user interface and the Internet for

data transfers and downloading software. Text links were inserted on well-known discussion forums, Usenet and mailing lists that relate to e-banking. In qualitative terms, the representation of the sample was high; the majority of the e-banking forums or mailing lists had a high volume of e-banking customers. The exclusion of invalid questionnaires due to duplication or empty fields provided a final sample size of 456 customers. As it was not possible statistically to assess the reliability or possible bias of non-random samples, this research compared some of the survey results with available information about the population. The author can say therefore, that the background proportion is consistent with surveys of typical e-banking customers in Spain (see Table 1).

Construct operationalisation

The constructs were measured by adapting existing and literature-validated scales to the framework of the research. However, this research included various refinement procedures for clarity, completeness and readability. Accordingly, content validity was established through individual interviews with e-banking professionals and customers and marketing professors majoring in e-commerce, to check the suitability of the wording and format.

The satisfaction scale has been adapted to the electronic context by Anderson and Srinivasan (2003). Commitment was measured using the scale of Kumar, Scheer and Steenkamp (1995) for three components of affective commitment (Geyskens et al. 1996). These authors aimed to capture the customers' desire to remain with a company because of feelings of attachment, identification, and loyalty. This empirical research limited the measures of involvement to those that specifically relate to ego and purchase involvement. A total of nine items was employed — adapted from prior studies to measure ego involvement (three items) and purchase involvement (six items)

Table 1
Socio-demographic characteristics of sample.

Variables	Population e-banking ^a (%)	Sample e-banking (%)
Gender		
Male	61.9	55.9
Female	38.1	44.1
Age		
<24	9.0	2.7
25–34	36.1	29.6
35–44	31.0	31.3
45–54	16.0	21.3
55–64	6.5	10.7
>64	1.5	4.4
Education		
Less than high school	11.0	.0
High school graduate	38.8	25.4
College/university graduate		66.4
Master's	50.2	5.4
PhD		2.7

^a Source: See National Bureau of Statistics, INE: Survey on ICT Usage in Households 2006 — Spain.

in financial services (Ganesh, Arnold and Reynolds 2000). To measure trust, this study used McKnight, Choudhury and Kacmar's proposal (2002), since (a) it has been developed on the basis of contributions from different disciplines; (b) it was originally created for the measurement of trust in e-commerce; and (c) it includes the main beliefs considered for trust (*i.e.* the perception of the integrity, benevolence – goodwill – and competence of the electronic service provider). All items are five-point Likert-type, ranging from “strongly disagree”, 1, to “strongly agree”, 5. See Appendix.

The trust scale was reviewed using factor exploratory analysis (Principal Component Analysis [PCA] with a Varimax rotation) in order to establish its definitive dimensionality. In contrast with the initial dimension of trust, the integrity dimension has been incorporated into the benevolence dimension. Previous researchers also chose to use two-dimensional models of trust: competence and goodwill. Both dimensions have been examined by developing a series of models. This research used the EQS statistical

software (version 5.7b) to perform a *Robust Maximum Likelihood Estimation* analysis because it operates well in samples that do not unequivocally overcome the multivariate normality test. All of the indicators fulfil the criteria proposed by Jöreskog and Sörbom (1993).

Finally, in order to confirm the presence of a two-dimensional structure in the construct of trust, this study adopts the rival models technique. This analysis consists of comparing three alternative dimensionalities: in the first model, the dimensions obtained in the exploratory analysis for that factor are differentiated (goodwill and competence); while the second establishes a three-dimensional construct (benevolence, integrity and competence); and in the third model all the items weighed on a single factor. The results show an acceptable fit in the first model, where the square root of the average variance extracted (AVE) was also greater than that construct's correlation with other constructs respectively, supporting the two-dimensionality of the construct.

Table 2
Measurement model.

A. Individual item reliability-individual item loadings ^a					
Construct reliability and convergent validity coefficients					
Dimension	Loadings	Composite reliability	AVE		
Satisfaction		.959	.798		
ST1	.903				
ST2	.757				
ST3	.903				
ST4	.960				
ST5	.938				
ST6	.884				
Commitment		.913	.778		
COM1	.881				
COM2	.921				
COM3	.843				
Trust		.907	.830		
a. Benevolence–Integrity	.922				
b. Competence	.900				
Involvement types					
Ego involvement		.919	.792		
Ego01	.920				
Ego02	.911				
Ego03	.836				
Purchase involvement		.840	.503		
Purch01	.705				
Purch03	.610				
Purch04	.760				
Purch05	.705				
Purch06	.755				
B. Discriminant validity coefficients ^b					
	Satisfaction	Commitment	Trust	Ego involvement	Purchase involvement
Satisfaction	.893				
Commitment	.371	.882			
Trust	.601	.386	.911		
Ego involvement	.251	.365	.219	.890	
Purchase involvement	.197	.428	.232	.494	.709

^a All loadings are significant at $p < .001$.

^b Diagonal elements (bold) are the square root of average variance extracted (AVE) between the constructs and their measures. Off-diagonal elements are correlations between constructs.

Data analysis and results

The proposed model and hypotheses testing was conducted using Partial Least Squares (PLS); *SmartPLS* 2.0.M3 software (Ringle, Wende and Will 2005). PLS was chosen over covariance-based techniques (e.g. LISREL) because it places fewer restrictions on data distribution and normality. PLS offers a number of advantages over LISREL in terms of the estimation of interaction effects. This specific advantage is particularly relevant for this research.

Firstly, under measurement error conditions (e.g. latent variables), traditional statistical techniques – such as moderated regression – may fail to estimate interactions accurately. In order to address this problem a product-indicator approach, in conjunction with the PLS procedure, is used to estimate the underlying interaction construct (Irwin and McClelland 2003). Secondly, while covariance-based approaches have been employed in several studies, a growing body of evidence suggests that the LISREL product-indicator approach could also be problematic.

Measurement model

The next step was to test the model's psychometric properties. The two-dimensionality of the trust scale initially suggested that this higher order factor should be measured by two latent first-order dimensions.¹ Subsequently, the items for each dimension were optimally weighted and combined using the PLS algorithm to create the latent variable scores. The dimensions, or first-order factors, then became the reflective-items of the trust construct.²

Firstly, individual reflective-item reliability was assessed by examining the loadings of the items with their respective construct. The author discarded all those items with a standardized loading below .6 ($purch02 < .6$). Despite accepting this intermediate threshold, items were left in the model only if the rest of the reliability criteria were fulfilled. See Table 2A.

Secondly, construct reliability was assessed using the composite reliability (ρ_c). The composite reliabilities for commitment, satisfaction, trust, ego involvement and purchase involvement, including the interaction constructs, are over the recommended .7 level. The significance of the loadings was checked with a re-sampling procedure (500 sub-samples) for obtaining *t*-statistic values; they are all significant ($p < .001$).

Thirdly, convergent and discriminant validities were assessed by ensuring that the square root of the average variance extracted by a construct from its indicators is at least .7 (AVE > .5) and should be greater than that construct's correlation with other constructs respectively. All latent constructs satisfy these conditions. The square root of the AVE (> .5) is much larger than all other cross-correlations for both samples. The convergent and discriminant validities of the multi-item constructs of the models are acceptable. See Table 2A, B.

¹ The trusting beliefs were treated as one construct rather than being distinct from each other, building a latent second-order concept, and using the molecular approach outlined.

² The standardized loadings ranged between .90 and .92 (see Table 2). Such high loadings could be indicative of multicollinearity, implying that the trust beliefs will be empirically inseparable even though they may be conceptually distinct.

Structural model

Fig. 1 and Table 3 show the path coefficients for the model and their significance levels. The author performed bootstrapping (with 500 sub-samples) to test the statistical significance of each path coefficient using *T*-tests. The author also took a hierarchical approach to test the hypotheses, in which the author first estimated a model with the main effects, and then added the interaction effects.

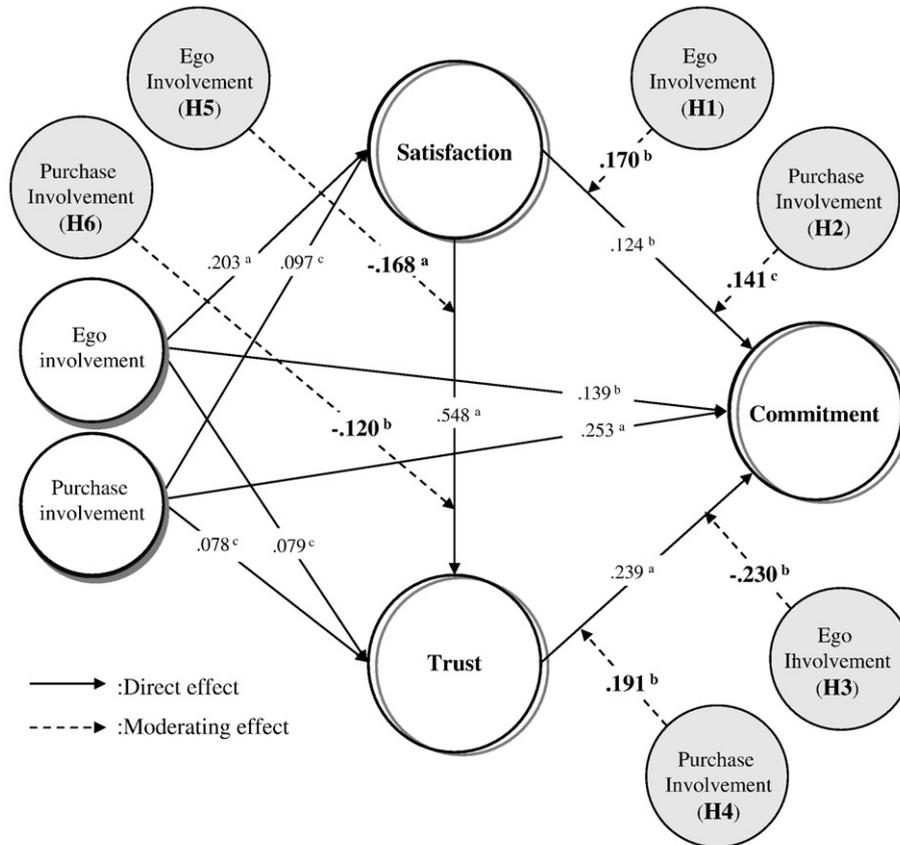
Firstly, both models appear to have an appropriate predictive power for most of the dependent variables; variances explained, or *R*-square values, as the endogenous constructs exceed the required amount of .10. Another measure that supports these positive results is the Q^2 test of predictive relevance for the endogenous constructs. The redundancy (Q^2) in the endogenous variables serves as an indicator of a model's performance within the sample. In general, the summarized results confirm that the main effects model (Q^2 satisfaction: .050; Q^2 commitment: .264; Q^2 trust: .194), and the interaction effects model (Q^2 satisfaction: .065; Q^2 commitment: .330; Q^2 trust: .287) have satisfactory predictive relevance for the endogenous variables.

Secondly, PLS path modelling naturally lacks an index that can provide the user with a global validation of the model. In this regard, Tenenhaus et al. (2005) recently developed a goodness-of-fit criterion (GoF) for PLS: "(...) the GoF represents an operational solution to this problem as it may be meant as an index for validating the PLS model globally." GoF criteria for small, medium, and large effect sizes would be .1, .25 and .36 (Cohen 1988). For the interaction effects model this fit is .409, indicating a good fit of the model to the data.

Thirdly, as indicated in the main effects model, satisfaction and trust have a significant impact on commitment, with path coefficients of .163 ($t=2.940$, $p < .01$) and .195 ($t=3.434$, $p < .001$) respectively. Satisfaction also has a significant effect on trust ($\beta=.573$; $t=15.669$, $p < .001$). Furthermore, ego and purchase involvement types show impacts on satisfaction, commitment and trust, with path coefficients of .203 ($t=3.736$, $p < .001$)/.096 ($t=1.926$, $p < .05$), .142 ($t=2.677$, $p < .01$)/.281 ($t=6.731$, $p < .001$) and .022 ($t=.862$, not significant)/.110 ($t=2.585$, $p < .01$) respectively. The constructs account for 30.9% of the variance in commitment.

The interaction effects were also included, in addition to the main effects model. As with regression analysis, the predictor and moderator variables were multiplied to obtain the interaction terms. Standardized interaction terms allow for an easier interpretation and reduce the risk of multicollinearity. However, in the presence of significant interaction terms involving any of the main effects, no direct conclusion can be drawn from these main effects alone (Aiken and West 1991).

The results give a standardized beta of .124 ($t=2.594$, $p < .01$) from satisfaction to commitment, .239 ($t=5.159$, $p < .001$) from trust to commitment, and .548 ($t=17.859$, $p < .001$) from satisfaction to trust. Ego involvement has a significant impact on satisfaction (.203; $t=3.440$, $p < .001$), trust (.078; $t=1.986$, $p < .05$), and commitment (.139; $t=2.767$, $p < .01$). Purchase involvement has a significant impact on satisfaction, trust and commitment, with path coefficients of .097 ($t=1.758$, $p < .05$), .079 ($t=2.105$, $p < .05$) and .253 ($t=6.185$,



^a $p < 0.001$, ^b $p < 0.01$, ^c $p < 0.05$ (based on $t(499)$, one-tailed test)

Fig. 1. Results. Model of involvement and the relationships between customer satisfaction, trust and commitment.

$p < .001$) respectively. According to the strength of moderating effects, the interaction effects are of $-.168$ ($t=4.511, p < .001$) (satisfaction*ego involvement → trust), $.170$ ($t=2.697, p < .01$) (satisfaction*ego involvement → commitment) and $-.230$ ($t=2.762, p < .01$) (trust*ego involvement → commitment). Likewise, the interaction effects are of $-.120$ ($t=2.679, p < .01$) (satisfaction*purchase involvement → trust), $.141$ ($t=2.016, p < .05$) (satisfaction*purchase involvement → commitment) and $.191$ ($t=2.941, p < .01$) (trust*purchase involvement → commitment).

Therefore, hypotheses H1 and H2 are supported; both involvement types would positively moderate the relationship between satisfaction and commitment. Moreover, ego involvement reduces the impact of trust on commitment, whereas purchase involvement increases the impact of trust on commitment, supporting hypotheses H3 and H4. Finally, involvement types decrease the impact of satisfaction on trust. In this regard, hypothesis H5 is supported, but hypothesis H6 is not. To examine the results, the author also performed post-hoc analysis using plotting techniques suggested by Aiken and West (1991) — see Fig. 2.

Lastly, empirical research follows the hierarchical process similar to multiple regressions, where the R -square for this interaction model is compared to the R -square for the main effects model, which excludes the interaction constructs. The difference in R -square was used to assess the overall effect size f^2 for the interaction where .02, .15 and .35 have been suggested

as small, moderate, and large effects respectively (Cohen 1988). The interaction effects model, which proposes involvement types to quasi-moderate the model relationships, possessed a significantly higher explanatory power than the main effects model (eliminating interaction terms). The effect size for the interaction effect was .218 (i.e. large-moderate). Furthermore, the author also calculated f^2 to assess the effect size of the

Table 3
Hypotheses results.

Relationships	H _i	Interaction effects model	H _i Supported
Satisfaction * ego involvement → commitment	H1	.170 ^b	Yes
Satisfaction * purchase involvement → commitment	H2	.141 ^c	Yes
Trust * ego involvement → commitment	H3	-.230 ^b	Yes
Trust * purchase involvement → commitment	H4	.191 ^b	Yes
Satisfaction * ego involvement → trust	H5	-.168 ^a	Yes
Satisfaction * purchase involvement → trust	H6	-.120 ^b	Not

^a $p < .001$,
^b $p < .01$,
^c $p < .05$ (based on $t(499)$, one-tailed test).

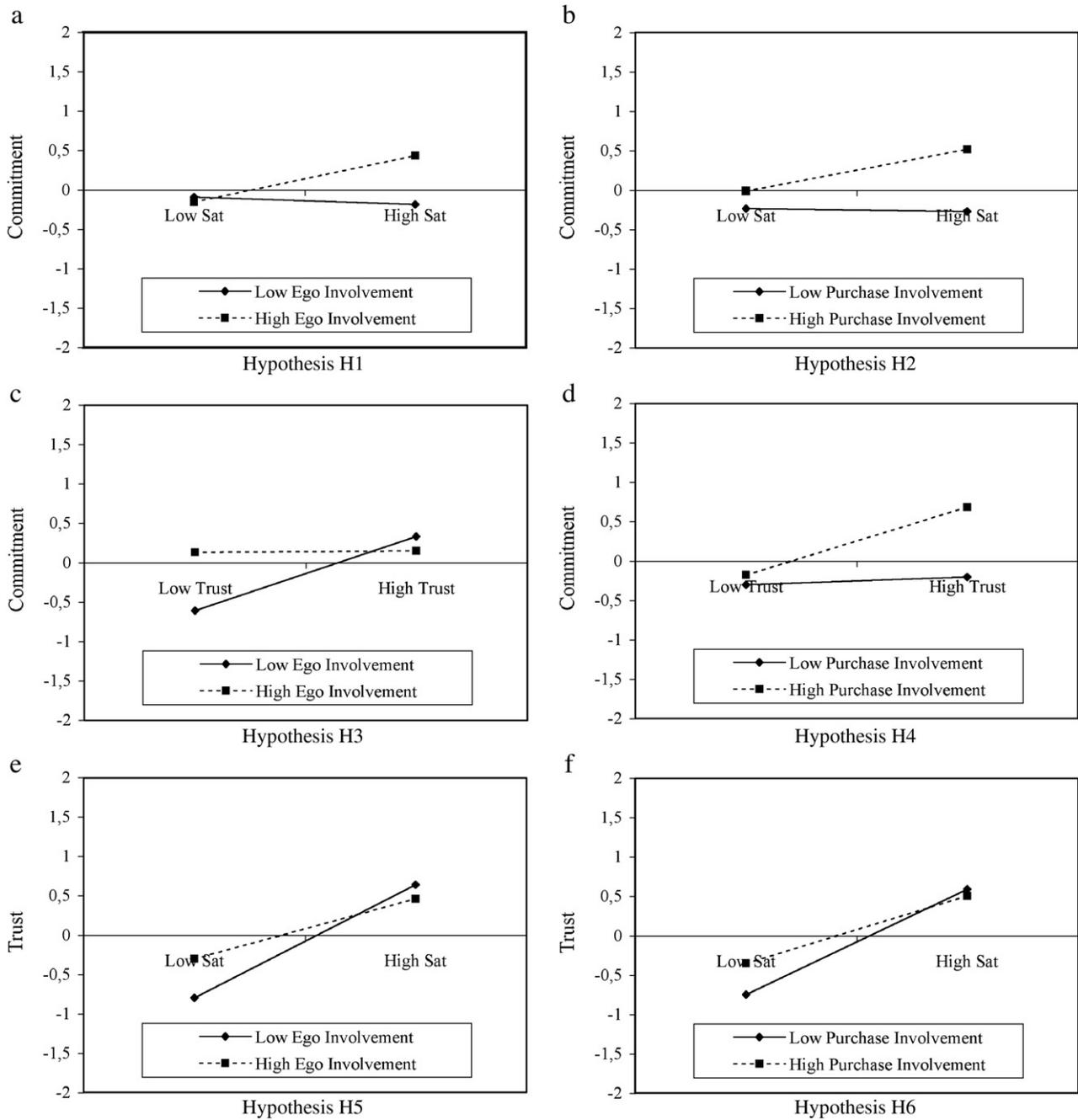


Fig. 2. Simple slopes data 2×2 plots. Post-hoc analysis using plotting techniques.

involvement types in the interaction effects model. The results suggested a moderate effects size of f^2 ; *i.e.*, 11.8 (small-moderate, eliminating ego involvement — as moderator variable) and 19.7 (moderate-large, eliminating purchase involvement — as moderator variable).

Discussion

One of the primary goals of this study was to develop a deeper understanding of the construction of a satisfaction–trust–commitment model in e-banking by studying the interaction effects of customer involvement. The results

provide strong support for the arguments that, on the one hand, online satisfaction and trust lead the customer into developing a high commitment to the e-banking service; on the other hand, these relationships are significantly moderated by involvement levels because of their potential effect on knowledge (familiarity and expertise) and searching, information processing and decision-making. The most important implication is, therefore, that managers – in order to maintain a genuine relationship between the user and the e-banking service – should take account of the different types of involvement for the allocation of their marketing efforts between satisfaction and trust initiatives.

a. The moderating effects of involvement on the relationship between satisfaction and commitment

Bearing in mind that e-banking services are high-search goods entailing financial risks and involvement and accepting the increased relevance of satisfaction among high involvement customers (H1 and H2), e-banking services should direct their online marketing efforts to involvement-satisfaction-based initiatives (related to brand superiority, defenders of the brand, and supportive social environment; *cf.* Oliver 1999). For instance, enhancing customer satisfaction – through increasing customer involvement – can be seen as important initiatives that promote customer loyalty and avoid consideration of competitive brands intentionally.

Brand superiority

Managers should encourage customers to make on brand decisions by stimulating their motivation and capacity, and to *evaluate positively the brand* (*cf.* elaboration likelihood model; Petty and Cacioppo 1983); for example, linking brands to engaging personal issues, accentuating the differences between competitive brands – stressing their essential characteristics – or establishing accessible, clear and understandable brand identities – especially among high involvement customers. By doing so, brands will first encompass the intrinsic/affective aspects of relationships apart from those of purely instrumental value, and second, customers will (a) refuse to be persuaded by new dissonant/competitive pieces of information; and (b) intensify their existing beliefs/evaluations/intentions (*cf.* cognitive dissonance theory) despite *enhanced liking for competitive brands* (conveyed through imagery and association, variety seeking and voluntary trial, etc.) and *persuasive counter-argumentative competitive messages* (conveyed through induced trial: coupons, sampling, etc.) (*cf.* Oliver 1999). Increasing brand superiority will decrease the impact of other, competitive brands, and curb opportunistic behaviours, enhancing genuine loyalty.

Defenders of the brand

Enhanced involvement increases the chance of cognitive activity, familiarity, and expertise, such that commitment will highly be influenced by non-economic satisfaction (H1). Loyal customers will consequently be (a) less susceptible to negative information about a service than are disloyal customers (Lam et al. 2004); and (b) relatively immune from competitive overtures (Oliver 1999). Familiarized/satisfied customers will probably recommend the brand to others. Satisfaction will not only increase customers' tendency to recommend a service provider to other customers but also repeat patronizing the service provider (Lam et al. 2004).

Brand strength would, therefore, not only be an effective driver of online trust for financial services (Bart et al. 2005; Johnson 2007; *cf.* Discussion, section b, below), but also an effective driver of online satisfaction. Brands should, then, be positively/intrinsically *differentiated* – in the customers' point of view – for high involvement categories, such as financial services sites.

Supportive social environment

Purchase involved consumers are also motivated to scrutinize information more fully in order to make the appropriate decision. Assuming that easier access to online information increases satisfaction with electronic transactions, e-banking should design online applications with extensive/deep content to provide much richer information than is available offline – for example, financial communities providing both interpersonal interactions and access to online information – (Shankar, Smith and Rangaswamy 2003). Virtual communities will allow customers to exceed their expectations, which may lead to increased satisfaction, and consequently increase the benefit to customers of long-term relations with the e-banking services.

b. The moderating effects of involvement on the relationship between trust and commitment

Trust is an efficient alternative for assessing and determining the extent to which one should engage in an online relationship. Overall, “trust is the major influencing factor of customer loyalty, which indicates that customers first have to build trust in a Web-based service before developing loyalty towards it” (Fassnacht and Köse 2007; *cf.* also Bart et al. 2005). In particular, this research provides empirical evidence for the assumption that involvement assumes a significant moderating role in the online environment analysed. On the one hand, when ego-involvement customers evaluate e-banking services through their accumulated service encounters, they will reduce the importance of trust as a predictor of loyalty (H3). The perceived probability of service-based risk will be reduced when familiarity/expertise exists; that is, customers learn *what to expect*. On the other hand, due to the high potential for loss in the case of high involvement purchases (*e.g.* financial or information risks), the need to trust – through building affective commitment – becomes more relevant (H4).

Having accepted the relevance of trust in building affective commitment – especially among high purchase involvement customers – e-banking services should allocate their online marketing efforts to trust-based initiatives. Trust policies would, therefore, assist the progressive reduction of technological anxiety via environmental security, operational competence, and operational benevolence (Johnson 2007). E-banking providers should first attempt to generate trust in the goodwill of the management in its customers' affairs, showing a determined willingness to understand and comprehend their needs and, above all, to be a company capable of attracting and maintaining mutual commitments. It is essential for e-banking providers to be honest – to give priority to customers' interests – and reliable – order fulfilment and absence of errors. E-banking providers should prioritize their support for the control perceived by purchase involvement customers and by making available clear rules and management procedures, as well as the required legal aspects and seals of approval (*e.g.* Versign, TRUSTe, as indicators of security) that will reduce levels of uncertainty (*i.e.* financial and information risks relative to security and privacy concerns respectively) in their relationship with e-banking service providers.

Furthermore, greater levels of usability (and navigation) will be associated with lower levels of difficulty, and offer more online security/trust to e-banking customers. Nevertheless, in line with Lin, Gregor and Ewing (2008), managers should not only consider the functions of usefulness and ease of use, but also contemplate the broader level of users' engagement and positive emotions, including pleasure, happiness, etc. Customers also wish for support from human advisors before they conclude a transaction online (Meyer 2006). In online settings, customers may be extremely vulnerable, due to a lack of knowledge or expertise (low ego involvement; *cf.* H3), or the inability to acquire goods or services without the assistance of others. These issues will increase with the complexity of the financial service. Research also suggests (a) the creation of virtual-advisor technology that combines customer service with precise, understandable technical information, and useful shopping tips/explanations/tools, etc. (Urban, Sultan and Qualls 2000), and (b) online expert peer recommendations — especially when customers are overwhelmed by the extensive/deep information that is available to them through online experiences (Smith, Menon and Sivakumar 2005). Advice would enhance credibility on a website “when consumers believe that sharing information with the site could be at risk” (Bart et al. 2005). Finally, brand strength may also be an effective driver of online trust for financial services (categories in which consumer involvement is high) — *cf.* Discussion, section a.

c. The moderating effects of involvement on the relationship between satisfaction and trust

Trust beliefs play a mediating role in facilitating the development and maintenance of long-term relationships. However, these results show the higher the degree of cumulative knowledge (ego involvement) and perceived risk (purchase involvement), the weaker the positive relationship between satisfaction and trust (H5 and H6). When involvement customers evaluate an e-banking service through accumulated interactions, they will reduce the importance of trust as a mediating dimension between cumulative satisfaction and customer loyalty (see Discussion and marketing initiatives, sections a–b). According to Bart et al. (2005), one explanation could be that trust is no longer an essential dimension influencing customer loyalty once interaction with the e-banking service is frequent (and fulfilling, gratifying and easy).

To conclude, this research must recognize a series of limitations. Firstly, the model clearly does not include all the relevant variables; for instance, measurements of website service quality, customer value or explicit switching costs (Fassnacht and Köse 2007; Lam et al. 2004). In particular, there has been recent steady progress towards an understanding of the effects of website characteristics (interactivity, depth of information, etc.) and user characteristics, such as personal Internet savvy, innovativeness/predisposition to technology, frequency of service use, etc. (Shankar, Smith and Rangaswamy 2003; Shankar, Urban and Sultan 2002). Furthermore, research could extend the current conceptualization of customer loyalty as a one-dimensional construct to a multidimensional construct

(*e.g.* recommending the service provider to other customers and an intention to repeat purchase) (Lam et al. 2004). Secondly, this research has used cross-sectional data. Gathering longitudinal data on business relationships poses serious problems. However, researchers need to collect data about the same set of relationships with identical users over several periods to take into account the dynamics in user patronage behaviour. Thirdly, the model needs to be tested with objective involvement measures. Involvement types can be measured in a number of ways. E-banking marketers can either monitor their customers' involvement levels, as reflected in their behaviours, or ask directly about them. In this respect, highly involved customers are likely to be more interested in financial services in general, and in their e-banking provider in particular. This interest should be reflected in the amount of time they spend *tracking* their banking activities, the state of their accounts, shares, etc., and taking care of their financial assets.

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Appendix A. Items

Dimensions

Satisfaction

- st01.* I am satisfied with my decision to contract the services of my e-bank
- st02.* If I were to do it again, I would not feel differently about contracting my e-bank
- st03.* My choice to contract my e-bank was a wise one
- st04.* I am happy with my earlier decision to contract my e-bank
- st05.* I think I did the right thing by deciding to use the services of my e-bank
- st06.* My experience with using my e-bank is very satisfactory

Commitment

- com01.* Even if I could, I would not leave my e-bank; I like having a relationship with it
- com02.* I want to continue being a *member of the community* that uses the services of my e-bank; my relationship with it really is gratifying
- com03.* My affective links with my e-bank are the main reason why I continue to use its service

Trust

Benevolence–Integrity

- tr01.* I believe that my e-bank would act in my best interest
- tr02.* If I required help, my e-bank would do its best to help me
- tr03.* My e-bank is interested in my well-being, not just its own
- tr04.* My e-bank is truthful in its dealings with me
- tr05.* I would characterise my e-bank as honest
- tr06.* My e-bank would keep its commitments to me
- tr07.* My e-bank is sincere and genuine

Competence

- tr08.* My e-bank is competent and effective in its services
 - tr09.* My e-bank performs its role of providing financial services very well
 - tr10.* Overall, my e-bank is a capable and proficient financial provider
 - tr11.* In general, my e-bank is very knowledgeable about e-banking and its financial services
-

Appendix (continued)

Dimensions

Involvement types

Ego involvement

ego01. The brand image of the e-bank played a major role in my decision to become a customer of the e-bank

ego02. The e-bank I use says a lot about who I am

ego03. It is important for me to choose a e-bank that “feels” right

Purchase involvement

purch01. I constantly compare the prices and rates offered by various e-banks

purch02. I visited multiple e-banks before I opened an account with the current e-bank

purch03. I compared the prices and rates of several e-banks before I selected my current bank

purch04. After deciding on my current e-bank, I have discussed my choice with family and friends

purch05. After deciding on my current e-bank, I have compared my e-bank with other e-banks

purch06. After deciding on my current e-bank, I have weighed the pros and cons of my choice

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