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**The Moderating Role of Need
for Personal Interaction in the
Relationship between E-
Quality, E-Satisfaction and
Commitment “Case of
Moroccan E-Banking Users”**

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Abstract

This article demonstrates that the need for personal interaction has no moderating effect on the

relationship between e-quality and e-satisfaction, either in the relationship between e-satisfaction and commitment. The results reveal that a high or low

need for personal
interaction does not modify
these relationships for
Moroccan e-banking users.

Keywords: e-Quality,
E-satisfaction, commitment,
need for personal
interaction.

Introduction

The change of banking environment through the use of Internet technology has influenced the

interaction with banking services. From services with high levels of personnel interaction, where the face to face need has a strong influence on

credibility, we went to services where interaction is low or absent. However, direct council and exchange between individuals remain indispensable for many

customers less open to technology. Indeed, the personal interaction does not disappear in favour of a relationship mediated by the Internet. Moreover,

some authors as Zhu and al.
(2002) found that
consumers who need
personal attention evaluate
above traditional
dimensions of service

quality. In addition, the need for personal attention accentuates the preference for traditional services. The preference for traditional services has a direct effect

on the perception of the dimensions of perceived quality. Some people perceive that the use of high technology in meeting service dehumanizes

interaction. They may eventually change companies if they lose the human interaction with their provider (Gerson, 1998).

In view of the foregoing, we postulate that consumers with a high need for interaction with personal service would express much higher expectations

about the e-quality than those with low need. We consider that the need for interaction with service staff moderates the relationship between

perceived e-quality and e-satisfaction and the relationship between e-satisfaction and commitment.

The aim of this paper is to test the moderating role of need for personal interaction in the above-mentioned relations. It is organized as follows:

Initially, the conceptual framework is exposed, then the methodology will be presented and finally the results and the contributions of the

research will be shown and
discussed.

E-Quality

The perceived quality of Internet banking is part of the theoretical field of digital quality. It has been

designed differently and has been extensively tested at commercial sites.

According to Zeithaml and al. (2000), e-quality includes pre and post-

service experience with the website. It represents "the evaluation of the effectiveness and efficiency by which a website facilitates shopping,

purchase and delivery
products or services.
Several studies have
identified dimensions of
electronic quality, referring
mainly to work on

electronic service quality
and online satisfaction
(Wolfenbarger and Gilly,
2003, Srinivasan and al.,
2002, Yoo and Donthu,
2001; Novak and al., 2000,

Liu and Arnett, 2000;
Szymanski and Hise, 2000),
to work on technologies of
self-service (Bateson, 1985;
Dabholkar, 1996 and
Meuter and al., 2000) and

to work on Internet banking (Jun and Cai, 2001; Aladwani, 2001; Liao and Cheung, 2002; Jayawardhena, 2004).

These studies provide information on the dimensions most frequently cited in the literature and which may serve as a basis for

assessing the perceived
quality of Internet banking.

E-satisfaction

Satisfaction is defined as "a psychological form resulting from an evaluation process"

emotional and cognitive" (Oliver 1981). The satisfaction has an indirect effect on customer intent with the position after the purchase. Fornell and al.

(1996) show that cumulative satisfaction is a major antecedent of loyalty, represented by the intention to repeat purchase and tolerance of

a price increase. Regarding the e-satisfaction, Wolfinbarger and Gilly (2003) have identified four factors (website design, reliability, security /

confidentiality and
customer support) of the
online shopping experience
that predict strong
judgement on the quality of
consumer service and

satisfaction with the website. Szymanski and Hise (2000) conducted a study on e-satisfaction showing that convenience, website design and security

of financial transactions were the dominant factors in assessing the online satisfaction. Their results also show that positive perceptions of website

design and security of financial transactions are two important factors for the evaluation of e-satisfaction. They measured overall satisfaction with

regard to online trade in
adapting two commonly
used measures of
satisfaction: satisfaction /
dissatisfaction of
consumers (Oliver, 1980,

Zeithaml and al, 1996) and
(Pleased / unpleased) to
the online purchase
(Spreng and al., 1996).

E-commitment

Boulaire and Mathieu
(2000, p.1) define the
commitment toward a site
as “a psychological state

that the person maintains
toward the site,
characterizing her
relationship with the site
and its implications for the
maintenance of it or not,

corresponding to an emotional or (and) calculated commitment by the surfer to the site". The authors used two dimensions: affective

commitment and calculated
commitment. The
emotional commitment to a
site can result from
experiences on the Internet
and through a site and the

immediate emotional gratification it brings. Two sub-dimensions characterize affective commitment: the symbolic dimension and the

hedonistic dimension of the site. The calculated commitment refers to the cognitive process followed by the Internet to reach the outcome, the decision to

continue his relationship with a site. In this perspective, the calculated commitment is characterized by three sub-dimensions: the absence of

alternatives, satisfaction with the chosen site and then switching costs.

The authors therefore insist on two forms of

commitment: a
commitment based on
emotional attachment that
develops in the relationship
between the Internet and
the website and expressing

the emotions felt during the browsing experience. The emotional dimension can have a good chance for cyberconsumer who issue with the same behavior

(buying, revisiting the website) and is a more important dimension which is calculated depending on the number of alternatives or switching costs.

Park and Kim (2003) and Chiou (2004) note that on the Internet, the commitment is often seen as the intention to revisit the website, the intention

to buy from the website or
the intention to
recommend website. In this
research, commitment to
the website will be
considered as resulting

from an overall assessment of satisfaction. It is defined as "intention to maintain a valued relationship with the website" (Park and Kim, 2003).

The Influence of the Electronic Quality on Satisfaction

About the virtual
environment, the

researches that have addressed this relationship are scarce. They can even be inventoried in four studies: Wolfinbarger and Gilly (2003), Rolland

(2003), Bressolles (2004) and Rodgers and al. (2005). Rolland (2003) studied the relationship between the perceived quality of a website (Fnac.com) and

satisfaction related to the website. Her results show that the perceived quality of the website positively influences satisfaction (for the model of the website

information, the regression coefficient is 0,792, $p = 0.000$ and for the model of website procurement, it is 0,808, $p = 0.000$). This relationship has been

proven by Wolfinbarger and Gilly (2003) who showed that the overall quality of service strongly predicts satisfaction of Internet users ($R^2 = 0.70$, p

= 0.001). The same result was also confirmed by Bressolles (2004) who studied this relationship in the context of a shopping experience at two websites:

a website of digital products (Nomatica) and a website tour (New Frontiers). His results show a strong positive link between the two concepts

($\gamma = 0,927$ for the global model and for the two websites studied: $\gamma = 0,855$ for New Frontiers and $\gamma = 0,953$ for Nomatica). It follows that service quality

positively influences
satisfaction after a
purchase from a merchant
website. Testing this
relationship on a sample of
students ($N = 836$),

Rodgers and al. (2005) showed that the perceived quality exerted a positive influence on online satisfaction ($\gamma = 0.20$, $p < 0.05$). This relationship is

stronger when respondents have a greater online experience ($\gamma = 0.36$, $p < 0.01$). On the contrary, if an online experience is weak, this relationship is

negative ($\gamma = -0.47$), which means that it is less likely to satisfy even less experienced consumers by providing a good quality service.

Wang (2003, p.2) notes that traditionally, the level of satisfaction is determined, among other things, by the quality of service. Therefore, the level of

e-satisfaction is also determined by the quality of e-services. As part of this research, perceived quality of Internet banking is defined as "the degree to

which the banking site makes managing banking effectively and efficiently" (adapted from Zeithaml and al. 2000). As for satisfaction, it will be

conceptualized as an overall assessment of the consumer experience. We consider the concepts of "perceived quality and satisfaction" in a relational

perspective, that is to say, as assessments resulting from an aggregate of experiences (Aurier and Evrard, 1998). We also recognize that the

perceived quality is an antecedent of satisfaction in the physical environment. If this result is supported by an extensive literature in this

context, few studies have been addressed in the virtual domain where we are. Our goal is to test this relationship in the context

of Internet banking. For this, we hypothesize:

H 1: The perceived quality of Internet banking has a positive influence on overall satisfaction of the consumer

The Influence of Satisfaction on Commitment

Satisfaction as a predictor
of commitment is a result

well defended in several studies. Chiou (2004), examining the antecedents of commitment to an Internet access provider, showed that overall

satisfaction of consumers toward a provider of Internet access positively influences their commitment to the respect of the supplier ($\gamma = 0.37$, $t =$

2.84, $p < 0.05$). Satisfied consumers are more likely to resort to the same website in the future, to resist in the face of competing alternatives and

generate positive word of mouth. Also, Allagui and Temessek (2004) showed that the more customers are satisfied with their experience with a provider

of e-services, the more committed they will be to it and the more their intentions to return and repurchase will be. The results from the structural

modeling confirm a direct and positive impact of e-satisfaction on commitment ($\gamma = 0.89, t = 12.97$). The authors conclude that satisfaction with a site

(portal site Yahoo) is an important antecedent of commitment. Park and Kim (2003), examining the influence of satisfaction with available information

on the website and the
profits on relational
commitment to the website,
show that satisfaction
explains a strong
commitment to the respect

of the website ($\beta = 0,448$ $t = 12,469$, $p < 0.001$). The authors emphasize the important role of satisfaction in the formation of consumer

commitment in the context
of buying books online.

Bansal and al. (2004)
studied the antecedents
and consequences of online

satisfaction from customers
of 145 companies primarily
"multi-channel distribution
of products / services
online, their results show
the existence of a

significant and positive relationship between e-overall satisfaction and intention to re-purchase ($R^2 = 0.38$, $\beta = 0.61$, $t = 6.78$).
Anderson and Srinivasan

(2003) also showed a sample of 1211 online consumers that satisfaction has a positive and significant impact on intention (behavioral

intention) ($\beta = 0.28, t = 5.143$). Given this research, overall satisfaction is presumed to be the natural history of commitment. Therefore, it is reasonable

to predict that consumers who are satisfied with the Internet banking make greater reuse. Therefore we postulate that:

H 2: The overall satisfaction of consumers with Internet banking positively influences commitment

The Moderating Role of Need for Personal Interaction on the Relationship: E-Quality- E-Satisfaction- Commitment

The needs for personal interaction represent the importance of human interaction for the customer in service encounters. It measures

consumer attitudes to the personal interaction (Zhu and al. 2002, p.75; Dabholkar and Bagozzi, 2002, p.188).

Zhu and al. (2002) found that consumers who need personal attention evaluate above the traditional dimensions of service quality. In addition, the

need for personal attention accentuates the preference for traditional services.

Cowles and Crosby (1990) suggest that the need for interpersonal contact in

service delivery is very important for some customers. Those who want personal attention and social interaction are not conducive to automated

services (Peterson and al. 1997) and some may eventually change companies if they lose the human interaction with their provider (Gerson,

1998). Some people perceive that the use of high technology in the service encounter dehumanizes interaction. They say nice to interact

with tellers (Zeithaml and Gilly, 1987). Lidengham (1984) showed that the loss of social interaction in situations of self-service cannot be compensated by

the gain of time. For Sabadie and Vernet (2003), electronic banking may not create or destroy value over a relationship at the counter, including an

incident (bank card
swallowed, transfer error,
and dispute the amounts
...). Conversely, contact with
a turnkey reduces this risk
and helps solve real-time

incidents. According to Dabholkar and Bagozzi (2002), if the consumer has a great need for interaction with staff; it will eliminate self-service technology,

whereas if the need is low, he will seek this kind of technology. They add that for the consumer who has a great need for personal interaction using the

delivery options for self service, they must be easy to use, reliable and pleasant.

The authors conclude that to get consumers whose need for interaction with the employee service is high and who evaluate the self-service technologies

positively, all attributes of these technologies must be strong. Bloemer and al. (2003), examining the impact of the need for social contact on

satisfaction and
commitment in services
(hairdressing service),
showed that the positive
need for social contact
affects satisfaction ($\beta = 0.$

53, $t = 4.46$). They found that when the consumer expresses high need for social interaction, the level of satisfaction is also high. The same effect on the

commitment was predicted by authors, but their results show an inverse relationship between the need for social interaction and commitment ($\beta = -0.59$,

$t = -2.70$). We therefore propose to test the moderating role of need for personal interaction in the relationship between the perceived quality of

Internet banking and e-satisfaction and the relationship between e-satisfaction and commitment.

H 3: The need for personal interaction moderates the relationship between the perceived e-quality of Internet banking and e-satisfaction.

H 4: The need for personal interaction moderates the relationship between e-satisfaction and customer commitment

Research Methodology

Data collection was conducted using an online questionnaire. A convenience sample of 639

users of Internet banking has been established. It comprises 42.4% men and 57.6% women. 29.8% have license as level of training and 49.8% a postgraduate

or doctorate level. In addition, 92.2% of respondents use the site from their banks to manage their accounts for 2 years (balance inquiries,

transfers online, credits
simulations, research
information). More than
half (57.7%) respondents
use the websites of their
banks several times a week

to manage their banking activities.

Selection and Validation of Measurement Scales

The scale developed by Hamadi (2008) was used to measure the perceived

quality of Internet banking.
This scale is composed of
21 items measuring seven
dimensions related to
perceived quality of
Internet banking. To

measure satisfaction, we chose to evaluate the satisfaction as a cumulative overall assessment from a set of experiments. For that, the scale of Rolland (2003)

was chosen. To measure the commitment toward a website, a unidimensional scale developed by Park and Kim (2003) was chosen. The measurement

of the variable need for personal interaction comes from a scale that was developed by Dabholkar (1996) and re-tested and validated by Dabholkar and

Bagozzi (2002). It is therefore retained and adapted to our research because it was developed using a rigorous methodology (factor

analysis over exploratory
and confirmatory, test
reliability and validity) and
it shows satisfactory
statistical qualities

including a Cronbach alpha of 0.83.

The validity of measures of variables: electronic quality, satisfaction

commitment and need of personal interaction, was verified. The psychometric qualities of these scales have been verified through an exploratory factor

analysis supported by a confirmatory factor analysis (n = 629). The scale of the perceived quality retains its multidimensional structure.

The satisfaction scale hasn't been validated, so a single-item scale of satisfaction was chosen for further analysis. The scale of the commitment has been

validated and composed of items. The scale of the need for personal interaction, finally selected for further analysis, is composed of three items.

Results and Discussions

Before testing hypotheses, the test of conceptual model was performed to verify the quality of its fit to

empirical data. The various fit indices show that the model is acceptable and has good fit to empirical data for the parameter estimates. The χ^2 -adjusted

degree of freedom is equal to 5, 07, the CFI, NFI and NNFI are respectively 0,932; 0,917 and 0,909. The RMSEA is equal to 0,081 with an interval of (0,070;

0,092), the AIC is equal to 125,94 much lower than the independent model (2409.17). So the model fit is satisfactory and interpretation of different

assumptions can be made. Estimating the parameters of the structural model show the existence of a positive and significant relationship between

perceived e-quality and e-satisfaction ($\gamma = 0,769$ and $T = 14,417$). This relationship is well demonstrated in the traditional literature, but

its replication in the context of Internet banking is a highly original contribution of this research. Thus, the e-quality perceived by users

of Internet banking positively affects their e-satisfaction. The hypothesis H1 is confirmed. The regression coefficient of e-satisfaction on commitment

is positive and significant ($\gamma = 0,225$ and $T = 2,415$).

Thus, the user satisfaction positively influences its commitment toward the

Internet banking. The hypothesis H2 is validated.

Regarding the test of the moderating effect of need for personal interaction is

the multi-group analysis in structural equation that has been done. Two subsamples were formed: sample of individuals whose need for personal

interaction is high (n = 324)
and sample of individuals
whose need for personal
interaction is low (n = 315).
The results indicate that
the need of personal

interaction does not have a moderating influence on the relationship between perceived e-quality and e-satisfaction ($d\chi^2 = 0.041$, $p = 0.84$) Therefore, the

hypothesis H3 is not validated. Also, the moderating role of need for interaction in the relationship between e-satisfaction and

commitment toward
Internet banking is not
established ($d\chi^2 = 0,223$, p
 $= 0.89$), therefore, the
hypothesis H4 is not
validated. We present in

Figure 1, the relations of
the model tested:

**Please see Figure 1 in full
PDF version**

The research results show a positive and significant link between the electronic quality and satisfaction. Satisfaction is largely determined by the

perceived quality as evidenced by its regression coefficient ($\gamma = 0.77$). The influence of the electronic quality on satisfaction was confirmed very strongly but

the validation of this relationship is not a surprise because several researches developed in the environment of traditional services (Cronin and

Taylor, 1992; Spreng and Mackoy, 1996; Sabadie, 2001; Champitaz and Swaen, 2004) and on the Internet (Wang, 2003; Wolfinbarger and Gilly,

2003; Rolland, 2003;
Bressolles, 2004 and
Rodgers and al. 2005;
Hamadi, 2007) have all
shown that. Our
contribution is therefore

the validation of this relationship in the context of Internet banking with a coefficient of $\gamma = 0.77$. In our context, the perceived e-quality can strongly

predict the satisfaction of Internet users of the Internet banking.

Moreover, our results showed a significant positive influence of e-

satisfaction on commitment
($\gamma = 0,22$; $t = 2,415$, p
 <0.05). Consumer satisfied
with Internet banking
engages to make greater
reuse of Internet banking in

the future and visits their bank first if they need banking services. These results are consistent with what Park and Kim (2003), Bansal and al. (2004) and

Chiou (2004) have shown that satisfied customers are more prone to resort to the same website in the future and resist the face of competing alternatives. The

more consumers are satisfied with their experiences with electronic services, the more they are committed to them and the more their intentions to

return and repurchase will be. Furthermore, validation of this hypothesis means that the consumer undertakes toward a website or an online service

should be especially pleased by it.

The lack of moderating effect in the relationship between the electronic quality, satisfaction and

commitment could come from the nature of our sample which is composed in its majority from young people (93.8% of the sample is aged 18 to 34

years) for which personal interaction is not a priority. Young people appreciate performing their transactions privately without having to talk to

anyone (Nantel, 2004).
Moreover, eliminating the
personal interaction is one
of the motivations that
drive them to use Internet
banking. The services

required by this category of customers (consulting sales, transfers, account opening ...) do not require interpersonal interaction. It seems that these people

regard the Internet banking as a complementary channel to existing banking channels. Therefore, their use of this media is not a depersonalization of their

relationship with their
banker. The Internet
banking is a new channel
that facilitates the

relationship without
making it totally
impersonal.

Research Contributions

From a theoretical viewpoint, this research continues the few work that was interested in

perceiving quality of online services on one hand. On the other hand, it enriches the theoretical framework of Internet banking. Another theoretical

contribution of this research is to have studied the influence of perceived quality on satisfaction and the influence of satisfaction on the commitment toward

Internet banking. The moderating role of need for personal interaction in the electronic quality and satisfaction relationship as well as the relationship

between satisfaction and commitment was examined. On the managerial level, the results of this research show that satisfaction with

Internet banking
contributes to the
commitment of customers
to use Internet Banking,
visit the banking website in
the first place and to

maintain their relationship
with their bank's website.

Limits and Future Research

This research has limitations inherent conceptual and

methodological choices.

These limits may be good lines of future research. The first limitation concerns the sample selection of the quantitative study

"students." While students are a more homogeneous sample and represent a better target for our subject, they are still individual consumers, not

more because they face tighter budgetary constraints. Moreover, it was possible to introduce into the model of other moderators such as

familiarity Cyber shoppers,
his expertise with the site
or its demographics. Also,
other studies have shown
the importance of other
factors that may moderate

the impact of designing a website on the trial of the Internet, such as attitudes toward technology (Parasumaran, 2000), innovativeness (Limayem

and Frini, 2002), the propensity for variety seeking (Donthu and Garcia, 1999) and user equipment (Galan, 2000). A critical limit is certainly not

taking a sample that takes into account other occupational categories. A larger sample would have to make a greater representation of consumer

users of Internet Banking
and therefore more
external validity to our
research .

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Appendix:

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