The causal chain of loyalty

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Abstract: Loyalty is considered as a key concept in the establishment and maintenance of long term relationships. In this work in progress communication, a theoretical framework is proposed on the basis of the relationship marketing paradigm and commitment trust theory. Loyalty is conceived according to Oliver (1997) as a causal chain composed by cognitive loyalty, affective loyalty, conative loyalty and action loyalty. We focus on the site of electronic database (Proquest). Data was collected with students. Factor analysis supports the existence of four loyalty components. Regression analyses are used to test our hypothesis. Results support the relationship between trust and cognitive loyalty. The relationships between the four components of loyalty were also proven. Nevertheless, a non commercial site of electronic database is a particular category of sites with lower risks than those where payments are realized and personal information is provided. Besides, other possible chains of loyalty with the same components may exist. In fact, cognition is not necessarily the first step in the development of loyalty.

Key words: loyalty, trust, relationship marketing.

Résumé: La fidélité est considérée comme un concept clé dans l'établissement et la maintenance des relations à long terme. Nous proposons un cadre théorique sur la base du paradigme du marketing relationnel et de la théorie de l'engagement- confiance. La fidélité est conçue selon Oliver (1997) en tant que chaîne causale composée par la fidélité cognitive, affective, conative et action. Nous nous focalisons sur le site d'une base électronique (Proquest). Les données sont collectées auprès des étudiants. L'analyse factorielle soutient l'existence de quatre composants de la fidélité. L'analyse des régressions est utilisée pour tester nos hypothèses. Les résultats confirment la relation entre la confiance et la fidélité affective. Les relations entre les composants de la fidélité sont aussi prouvées. Cependant, le site non commercial d'une base de données électroniques est une catégorie particulière de sites avec des niveaux de risques plus faibles que ceux où des payements sont réalisés et des informations personnelles sont fournies. En outre, d'autres chaînes de la fidélité avec les mêmes composants peuvent exister. En effet, le cognitif n'est pas nécessairement la première étape dans le développement de la fidélité.

Mots clés : fidélité, confiance, marketing relationnel

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Loyalty is becoming a key concept in the relationship marketing context. In fact, it is well known that the cost of attracting new customers is considerably higher than the cost of retaining existing ones (Reichheld et al., 2000). Therefore, it is important to understand the process of establishment of loyalty. However, loyalty is a complex multi-faceted concept and its conceptions multiplied in a variety of disciplines. Oliver (1997) considered a causal chain of loyalty composed by cognitive, affective, conative and action loyalty. This conception considers the four facets of loyalty indicated in literature (Gremler et al., 2001). But it is an implicit application of the cognition, affect, intention paradigm which is subject of controversy among researchers. In this study we are aiming to test this causal chain in the online context. Figure 1 shows the conceptual model to be tested. The theoretical paradigm sustaining our work is the relationship marketing paradigm. In this context, our model is based on the commitment trust theory (Morgan and Hunt, 1994).

Figure 1: Conceptual model to be tested
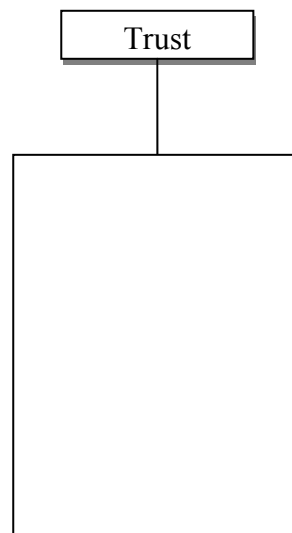
Data collection was made with students using a paper pencil questionnaire. We focus on the site of electronic database (Proquest). It offers free papers, communications, working papers… Actually a variety of other data bases exist. Thus, it is pertinent to study the actual and intentional behaviour of these students.

This research is pertinent for many purposes. Theoretically, we propose an integration of commitment trust theory with relationship marketing by considering the visit of a site as an entire experience that boosts relationships between customers and the firm. Then, we are aiming to test the causal chain of loyalty proposed by Oliver (1997). For managers, much is to be known about the question: how to establish loyalty? It is known that "regular visitors are more likely to buy than other visitors" (Moe and Fader, 2000) but the process of establishment of loyalty still ambiguous. A better comprehension of loyalty will be useful for the elaboration of loyalty programs.

1. Conceptual background

The proneness of relationship marketing is undeniable in the study of consumer behavior, business partnership, information system... It seems that Berry (1983) was the first to introduce the term relationship marketing in the literature. Instead, the emphasis on long-term relationships in the marketing of services took place earlier by the use of terms such as buyer-seller interactions and interactive marketing (Grönroos, 1980), the new marketing concept (Gummesson, 1983), interactive relationships (Gummesson, 1983).

Understanding relationship marketing requires a distinction between the discrete transaction, which has a "distinct beginning, short duration, and sharp ending by performance," and the relational exchange, which "traces to previous agreements [and]...is longer in duration, reflecting an ongoing process" (Dwyer, 1987). With this new paradigm, interacting with customers and satisfying customer needs are more important to marketers than ever before (Wang, Head and Archer, 2000). It focuses on relationship-building with customers. Customer retention is the primary focus, as opposed to market share in traditional transactional marketing. According to Payne (1995), transaction marketing and relationship marketing have different characteristics. They are summarized in Table 1.
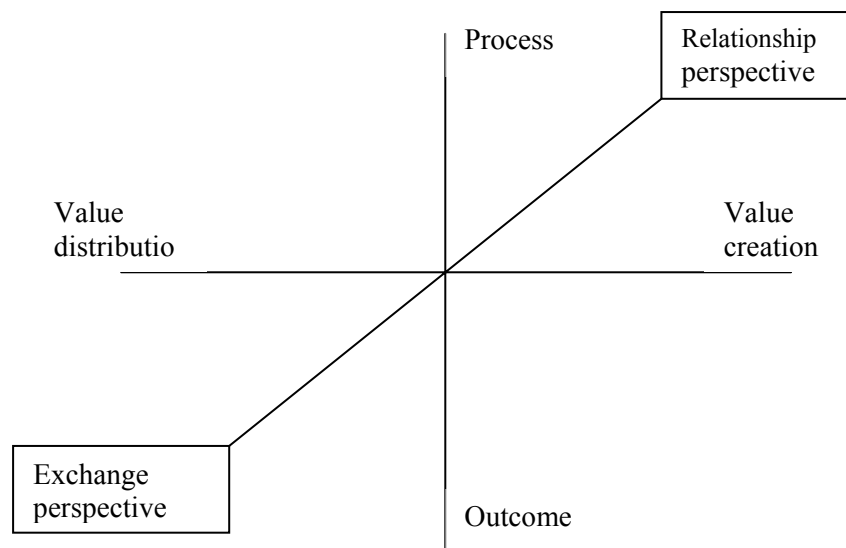
Table 1: Characteristics of transaction marketing and relationship marketing

Transaction marketing	Relationship marketing
• Focus on a single sale • Orientation on product features • Short time-scale • Little emphasis on customer service • Limited customer commitment • Moderate customer contact • Quality is primarily a concern of production	• Focus on customer retention • Orientation to customer values • Long time-scale • High customer service emphasis • High customer contact • Quality is the concern of all

Source: Payne, A. (1995), Advances in Relationship Marketing, Kogan Page.

Sheth and Parvatiyar (1995) state that relationship perspective, opposed to the exchange perspective, (Figure 2) ought to be based on value creation instead of value distribution and should focus on the process of relationship engagement and not the outcomes or consequences of the relationship.

Figure 2: The paradigm shift in Marketing Orientation

Palmer (1996) classifies conceptualizations of relationship marketing in numerous ways: at a tactical level, relationship marketing is used principally as a sales promotion tool; at a strategic level, long term relationships with customers are created by detention rather than retention by employing barriers to exit; at a philosophical level, relationship marketing is the heart of marketing philosophy surpassing products and their life cycles towards customer relationship lifecycles and integrating customer orientation with inter-functional coordination. In this research, relationship marketing is considered as a holistic marketing philosophy; it is "a sum of integrated parts that drive a firm's marketing competencies" (Berry, 2000).

In an attempt to clarify the conceptualization of relationship marketing, Harker (1999) analyzed 26 definitions. He found that there are seven fundamental concepts to defining relationship marketing. These are: birth, develop, maintain, temporal, interaction, outputs and emotional content. However, it is necessary to acknowledge that there is no perfect and all-inclusive definition. One of good definitions is proposed by Morgan and Hunt (1994). According to them: "relationship marketing relates to all marketing activities directed towards establishing, developing and maintaining successful relational exchanges". Morgan and Hunt's definition of relationship marketing is holistic. This view was criticized by Parvatiyar and Sheth (2000) preventing from the risk of dilution of the relationship marketing concept. They argue that relationship marketing should not be concerned with all aspects of marketing relationships. We think that marketing as a social process deals with complex relationships and encourages undertaking multi-disciplinary researches likely to bring illuminations to this ambiguous paradigm. Gummesson (1997) postulates that ambiguity is not bad because "fuzzy logic is not the same as sloppy logic; it is a more fertile approach to reality". Gummesson (1994) presents also an interesting view of relationship marketing as a gradual extension of the Nordic school approach to services marketing and management and the network approach to industrial marketing. According to him, relationship marketing is "marketing seen as relationships, networks and interaction".

Harker (1999) claims that an "elegant and succinct" definition is proposed by Grönroos (1994) relationship marketing is a means by which a company can

> "identify and establish, maintain and enhance and, when necessary, terminate relationships with customers and other stakeholders, at a profit so that the objectives of all parties involved are met; and this is done by mutual exchange and fulfillment of promises"

This definition will be adopted in our research because it encompasses the whole fundamental concepts in the definition of relationship marketing.

However, there is a definitional debate about relationship marketing. Some scholars consider it as an old concept. Petrof (1997) argues that relationships are already integrated in the word marketing itself which signifies a time horizon that is much longer than the immediate period of operational activity. He also indicates the existence of past works emphasizing on relationships such as the book of Drucker (1964) who wrote that the basic purpose of any business was not to sell a product but to create and keep customers. In contrast to this view, other researchers (eg. Wang, Head and Archer, 2000; Gronroos, 1996) present relationship marketing as a paradigm shift. They consider that relationship marketing changed the focus of marketing orientation from attracting short-term, discrete transactional customers to retaining long-lasting, intimate customer relationships. According to Gummesson (1996), relationship marketing is "old in practice and new in books". He calls for a distinction between the term that is new and the phenomenon that is "as old as trade itself". Others don't consider it as a new paradigm unless it is coupled with new technologies (Zineldin, 2000; Abidi, 2002). They talk about technologicalship marketing.

We state that relationship marketing is not a new idea but a new paradigm that prevails with the development of new technology that offers more opportunities of interaction and the possibility to recognize each customer as a specific person in the customer oriented perspective. We do not intend that information technology is the raison why of relationship marketing; it is merely a facilitator.

1.1. Loyalty

Loyalty is a prevailing concept in the relationship marketing context. Literature concerning definitions of loyalty is abundant. In a large review of the loyalty concept and its operationalization (Jacoby and Chestnut, 1978) concluded that there is no agreement on what loyalty is. Jacoby and Kyner (1973) put forward two basic approaches of the customer loyalty concept. These are described as the behavioral approach and the attitude-based approach.

According to the behavioral approach, customer loyalty is defined as a behavior (Cunningham, 1961; Ehrenberg, 1988; Kahn et al., 1986). Its main application is the prediction of consumers' choice. Operational measures of this form of loyalty are shares of purchase and purchasing frequency. In spite of its interesting results, this approach is essentially descriptive and/or predictive and is unable to explain the complexity of relations (Fournier, 1998; Fournier and J. Yao, 1997) especially in a relationship marketing context. Indeed, merely describing the actual behavior of the consumer does not suffice. As Biel (1992) notes: "while behavioral measure[s] of [customers' repeated decisions to] purchases describe the existence of equity, they fail to reveal what is in the hearts and minds of the consumer".

A proper analysis and description of the underlying attitudes/preference structure of the consumer is clearly required (Jacoby and Chestnut, 1978; Guest, 1956; Monroe and

Guiltinan, 1975) since it is likely that attitudinal preferences precede loyal behaviors [40]. Consequently, the attitude-based approach appears to define customer loyalty as an attitude (Copeland, 1988). Its aim is mainly explicative. Examples of operational measures of an attitudinal nature are preference, buying intention, supplier prioritization and recommendation willingness. This form of loyalty "represents a higher order commitment to the firm" (Shankar, Smith and Rangaswamy, 2003).

Attitudinal loyalty is used to differentiate loyalty from other forms of repurchase. These other forms are mainly retention and inertia. In the industrial context, when the observed behavior is due to positive attitudes (satisfaction, trust, commitment), and only in that case, it reflects customer loyalty (Jarvis and Wilcox, 1977). When this behavior is linked to a non-shared dependence from the customer to his supplier, it reflects retention (i.e. the customer is retained in the relationship); it can occur without attitudinal loyalty. When the behavior is the result of habits, that is to say when past buying behavior is the best explanation for future behavior, it reflects inertia (Bozzo, 2000). These definitions were easily translated to the business to consumer context.

Other researchers attempted to combine behavioral and attitudinal approaches (Day, 1969; Laban, 1979). In this vein, the commonly cited model of Dick and Basu (1994) distinguish four loyalty degrees depending on relative attitude and behavior. Relative attitude is a concept introduced by Dick and Basu (1994) to intend to what extent a customer's assessment of a product overrules the assessment of another product. The matrix resulting from these shows: loyalty, latent loyalty, spurious loyalty and no loyalty. Hence, loyalty occurs in the presence of both strong relative attitude and high rebuying rate.

Ranaweera et al. (2005) affirm that: "Online customer behavior models need to: incorporate both behavioral and attitudinal dimensions of loyalty". Following these recommendations, we combine attitudinal and behavioral approaches in this research because the strongest conceptualizations of customer loyalty therefore view it as a multi-faceted construct which takes into account both psychological and behavioral components (Fournier and Yao, 1997). This is particularly the case when expressed within a relationship marketing framework. For these reasons, we adopt the definition of loyalty proposed by Oliver (1997) "a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior".

Oliver's conceptualization of loyalty was first developed for brand loyalty in an offline context. It was adapted to the Website loyalty (Harris and Goode, 2004; Sivadas and Dwyer, 2000). In fact, Reichheld and Schefter (2000) found that basic requirements to build loyalty don't change in the online transaction in spite of differences between the two types of loyalty and "its definition should still be valid irrespective of the setting".

The above Oliver's (1997) definition presents loyalty in term of commitment. Oliver (1980) associates four steps of loyalty development increasing levels of commitment. Jacoby and Kyner [30] use commitment to distinguish true and false loyalty and suggest using it to evaluate the strength of different forms of loyalty. However, making a distinction between loyalty and commitment is not an easy task. Discussions on commitment can be found in many areas of study in which people form attachments. Day (1969) confuses it with loyalty. Others (Kapferer and Laurent, 1992; Aaker, 1991) consider that implication is related to the degree of attachment to the brand. Too et al. (2000) state that a main difference can safely be

said to reside in the context in which both constructs have been studied to date. More specifically, while commitment traditionally refers to the commitment a customer may feel to a marketing relationship with a given organization, customer loyalty traditionally refers to loyalty attitudes and behavior towards the organization in general, or the organization's brands (Uncles and Laurent, 1997). Interestingly, Morgan and Hunt (1994) argued that attitudinal loyalty to a firm is very similar to their concept of relationship commitment and is "critical to the study and management of relationship marketing". Moorman et al. (1992) define it as "the extent to which a partner is willing to maintain a valued relationship". The greater the mutual commitment to the relationship, all other things being equal, the more loyal the customers are (Gundlach et al., 1995). "Although the term commitment is broadly used to refer to antecedents and consequences, as well as the process of becoming attached and the state of attachment itself, it is the psychological attachment that seems to be the construct of common interest" (O'Reilly and Chatman, 1986). Following Oliver (1997) we define loyalty in terms of commitment that develops in four stages.

According to Oliver (1997) steps of loyalty are: cognitive loyalty, affective loyalty, conative loyalty and action loyalty. Cognitive loyalty refers to the existence of beliefs that (typically) a brand is preferable to others. Cognition can be based on prior or vicarious knowledge or on recent experience-based information. This consumer state, however, is of a shallow nature. Affective loyalty reflects a favorable attitude or liking based on satisfied usage. Commitment at this phase is referred to as affective loyalty and is encoded in the consumer's mind as cognition and affect. Whereas cognition is directly subject to counter-argumentation, affect is not as easily dislodged. Conative loyalty constitutes the development of behavioral intentions characterized by a deeper level of commitment (Thorsten, Kevin and G. Dwayne, 2002; Janda, Trocchia, Gwinner, 2002; Zeithaml, Berry and Parasuraman, 1996). Conation, by definition, implies a brand-specific commitment to repurchase. Conative loyalty, then, is a loyalty state that contains what, at first, appears to be the deeply held commitment to buy noted in the loyalty definition. However, this is a commitment to the intention to rebuy the brand and is more akin to motivation. In effect, the consumer desires to repurchase, but similar to any "good intention", this desire may be an anticipated but unrealized action. In the Action loyalty phase, the motivated intention in the previous loyalty state is transformed into readiness to act accompanied by a willingness to overcome impediments to such action. The action control paradigm proposes that this is accompanied by an additional desire to overcome obstacles that might prevent the act. If this engagement is repeated, action inertia develops, thereby facilitating repurchase. Ultimate loyalty is attended in the last step.

1.2. Trust

Berry (1995) describes trust as a single most powerful relationship-based marketing tool. Especially online, it was pointed out that the lack of online consumer trust was the main barrier of consumer participation in e-commerce (Jarvenpaa and Tractinsky, 1999; Reichheld and Schefter, 2000; Rose, Khoo and Straub, 1999). In fact, the lack of interpersonal exchange and the one-time nature of the typical transaction on the Internet make this kind of consumer trust unique. Indeed, trust is in essence related to other people and is nourished through interactions with them (Gefen and Straub, 2004). In absence of salespersons in the online world, the web site takes more importance and is representative of the company (Koufaris and Hampton-Sosa, 2002.

Trust has existed as long as the history of human beings and social interactions. Almost every aspect of a person's life is based on some form of trust (Wang and Emurian,

2005). For these reasons, trust was first studied in social psychology. Then, theories multiplied in various disciplines and trust is no longer restricted to interpersonal interactions; it can also be found between a person and an object (a brand, a company, a website, a system…) and between institutions. Nissenbaum (2001) stated that "Trust is an extraordinarily rich concept, covering a variety of relationships, conjoining a variety of objects. One can trust (or distrust) persons, institutions, governments, information, deities, physical things, systems and more". While Rousseau et al. (1998) recognize the existence of differences between inter-organizational and inter-personal trust, he affirms that the fundamental elements of its definition are comparable across research and theory. Recently, this concept is taking a considerable interest in marketing research; this is due to the relationship proneness.

In marketing, it is the commitment trust theory of relationship marketing (1994) that influenced many researchers. It was first developed in the industrial context. Then, the KMV (Key Mediating Variables) became the reference model in relationship marketing. This theory refutes the political economy paradigm which stipulates that "Power is the central concept in network analysis" because its "mere existence" can "condition others" (Thorelli, 1986). About commercial networks, Thorelli (1986) points out that "... power, information, money and utilities flow along the links of the network". However, Morgan and Hunt (1994) theorize that the presence of relationship commitment and trust is central to successful relationship marketing.

A plausible categorization of trust distinguishes the psychological approach from the behavioral approach (Chouk and Perrien, 2003). Sirieix and Dubois (1999) classify definitions of trust into three classes: a personality trait, a belief, both a belief and a behavioral intention. We combine these views to propose three classes of trust: a personality trait, a psychological state and a behavioral intention (Table 2).

Table 2 : Three classes of definitions of trust

personality trait		"A general predisposition to believe oral or written words, promises and affirmations of another person or group" Rotter (1967)
behavioral approach	Action	"actions that increase one's vulnerability to another" Deutsch (1962)
	Intention	"the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" Mayer, Davis & Schoorman (1995)
		"Trust is defined as a willingness to rely on an exchange partner in whom one has confidence." Moorman, Deshpande, and Zaltman (1993)
		"the willingness of the average consumer to rely on the ability of the brand to perform its stated function" Chaudhuri and Holbrook (2002)

psychological approach	Presumption	"Consumer's trust in a brand is a psychological variable that reflects a set of accumulated presumptions concerning the credibility, integrity and benevolence attributed by the consumer to the brand". Gurviez and Korchia (2002)
	Belief	"a belief concerning the brand preceding behavioral intention to buy" Sireix and Dubois (1999)
		"The firm's belief that another company will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm". Anderson et Narus (1990)
	Expectation	"One party's belief that its needs will be fulfilled in the future by actions undertaken by the other party". Anderson et Weitz (1989)
		"an expectation having an emotional connotation in heart of a relationship" Graf et al. (1999)
		"a type of expectation that alleviates the fear that one's exchange partner will act opportunistically" Bradech et Eccles (1989)

Our conceptualization of trust is similar to McKnight's definition of trusting beliefs. For McKnight et al. (1998), trusting beliefs encompass cognitive beliefs and belief-related confidence. Trusting Beliefs mean the extent to which one believes (and feels confident in believing) that the other person is trustworthy in the situation (McKnight et al., 2002). Trusting beliefs also encompass belief-related emotional security. This refers to the level of security one possesses in one's beliefs about the other party. We propose that trust is a confident trustor perception that the trustee has attributes in favor to the trustor and will not harm him. These attributes are ability, integrity and benevolence.

2. Hypothesis

2.1. The relationship between trust and loyalty
    Morgan and Hunt (1994) propose the commitment-trust theory where trust is an antecedent to commitment. Our conception of loyalty considers it as different levels of commitment to the Website. Chaudhuri and Holbrook (2001), propose that commitment is a result of trust. Trust is a necessary ingredient for long-term orientation because it shifts the focus to future conditions (Doney and Cannon, 1997; Ganesan, 1994). Lee et al. (2000) stated also that loyalty directly depends on the degree of trust. Therefore, we propose the following hypothesis:
<div align="center">H1: trust positively influences loyalty.</div>

2.2. The causal chain of loyalty
    The causal chain of loyalty is in concordance with works of Ajzen and Fishbein (1977). Authors argue that attitude and behavior are consistent in most situations and that

attitude is a strong predictor of behavior. Few studies have tested this causal link. The literature provides some support for this cognition-affect and intention pattern in the study of loyalty (Amine, 1998; Foster, Brian and Cadogan, 2000; Oliver, 1997, 1999). Some empirical research also supports Oliver's conceptualization of loyalty as four steps having a causal relationship (Harris and Goode, 2004; Oliver, 1997).

H2: cognitive loyalty mediates the relationship between trust and affective loyalty.
H3: affective loyalty mediates the relationship between cognitive loyalty and conative loyalty.
H4: conative loyalty mediates the relationship between affective loyalty and action loyalty.

3. Methodology

3.1. Measures

The trusting scale was used by McKnight et al. (2002), items were adapted from various studies analyzed by Wrightsman (1991). Cronbach's alpha was 0.96. Loadings of items ranged from 0.6 to 0.94. Harris and Goode (2004) developed a scale of loyalty measuring the four stages, each of them is composed by four items. CFA was conducted; each indicator loaded significantly on its designated factor (p <0.01) with satisfying adjusted goodness of fit. The Cronbach alpha coefficients range from 0.69 to 0.97.

3.2. Data collection

A paper pencil survey was conducted with students. The method adopted for the recruitment of subjects was convenience sampling depending on their willingness to participate in the study because the aim of our study is to test conceptual links in our model. 66.7% of our respondents are female this is explained by the superior rate of female Tunisian students (57.2% in 2005); this gap is larger among graduate students. 96.2% are aged from 20 to 29 and 2.6% aged from 30 to 39. Moreover, 91% of them are single and 9% are married. 52.6% have a master degree. 84.6% have a computer at home. 56.4% have an Internet connection at home. 63.8% have Internet connection at work.

4. Results and discussion

4.1. Scale validation

For each variable of our model, we realized a factor analysis. Table 3 presents a synthesis of results for both factor analysis and reliability.

Table 3: Validation of scale measures

Concept	KMO	Bartlett Test	Dimensions	Number of items	Alpha	Cumulative % of information retrieved
Trust	0.827	χ^2=1017.269, p=0.000	Trust Abiliy	4	0.901	54.53%
			Trust Benevolence and Integrity	4	0.781	15.60%
Loyalty	0.722	χ^2=320.175, p=0.000	Cognitive loyalty	3	0.856	77.79%
	0.500	χ^2=156.831, p=0.000	Affective loyalty	2	0.829	85.56%
	0.500	χ^2=113.724, p=0.000	Conative loyalty	2	0.772	81.46%
	0.823	χ^2=512.999, p=0.000	Action loyalty	4	0.886	75.08%

4.2. Test of hypothesis and discussion

As all our variables are continuous, we used simple and multiple regressions to test the relations between variables in our model. Trust explains 34% of the variance of cognitive loyalty (F= 56.432, p= 0.000). In fact, trust ability has a strong positive impact on cognitive loyalty (Beta= 0.408 t= 7.425, p=0.000). Similarly for trust benevolence and integrity (Bet= 0.417, t= 7.598, p=0.000). Consequently, H1 is accepted.

To test the mediating effect, of our variables we rely on the description of Baron and Kenny (1986). We consider X the independent variable, Y the dependent variable and M the mediating variable. If the influence of X on Y disappears completely in presence of M, this is the case of a complete mediation. Baron and Kenny (1986) propose four conditions:

1. If $Y= a_1 + b_1 X + error_1$, b_1 is significant
2. If $M= a_2 + b_2 X + error_2$, b_2 is significant
3. If $Y= a_3 + b_3 X + b_4 M + error_3$, b_4 is significant
4. b3 in the third condition is not significant

If the influence of X on Y is simply diminished but does not disappear, this is the case of a partial mediation. If the conditions are verified except the fourth, we calculate h.
h=

If h $\dfrac{b_2 * b_4}{\sqrt{b_4^2 * s_2^2 + b_2^2 * s_4^2 + s_2^2 * s_4^2}}$ partial.

Cognitive loyalty is a partial mediator between trust ability and affective loyalty. In fact,

Affective loyalty= 0.571 cognitive loyalty
(t= 10.379, p= 0.000)
R square = 0.326, F= 107.725, p= 0.000

Besides, when trust and cognitive loyalty are introduced as dependent variables that explain affective loyalty, the relationship between trust ability and affective loyalty is significant (t=5.682, p=0.000). However, h=5.09>1.96.
Cognitive loyalty is also a partial mediator between trust benevolence and integrity on one hand and affective loyalty on the other hand. In fact trust benevolence and integrity is positively related to affective loyalty (t=3.571, t=0.000) and h= 2.44>1.96.

Conative loyalty= 0.636 affective loyalty
(t= 12.145, p= 0.000)
R square = 0.405, F= 147.494, p= 0.000

Affective loyalty is a partial mediator between cognitive loyalty and conative loyalty because the relationship between cognitive loyalty and conative loyalty is significant (t=12.717, p=0.000). Besides, h=5.16>1.96.

Action loyalty= 0.676 conative loyalty
(t= 13.422, p= 0.000)
R square = 0.457, F= 180.140, p= 0.000

Conative loyalty mediates the relationship between affective loyalty and action loyalty. In fact, the regression of action loyalty on affective loyalty and conative loyalty shows that affective loyalty is not significantly related to action loyalty (t=1.33, p=0.185).
Consequently, H2, H3 and H4 are accepted.

Although results support the chain: cognitive-affective-conative-action loyalty, this does not exclude the existence of other chains composed by the same elements. In fact, these

components may be organized differently. Statistical analysis of the mediating role does not suffice to verify the causal link. It permits to verify if the causal link proposed by the theoretical model a priori defined accomplishes the conditions of the mediating role it is supposed to play (Caceres and Vanhamme, 2003). Following Zajonc (1980), we do not think that cognition is necessarily the first step in building loyalty. Therefore, we can investigate for example the chain: affective-cognitive-conative-action loyalty.

Conclusion

Building loyalty is the aim of any organization especially those acting in the online environment. Loyal customers are the most profitable; they are likely to talk positively about the firm, to buy more, to pay price premiums… In this study, we focused on a non commercial site of electronic database (Proquest) to examine determinants of loyalty. Trust was found as an important antecedent of cognitive loyalty. Our model supports the causal link between components of loyalty. Oliver's (1997) conception of loyalty is proven but this result does not exclude the existence of other processes of loyalty that do not necessarily respect the same causal link. Besides, electronic database is a special type of sites; we suggest for future research to test the model with commercial Websites. We suggest also the introduction of individual traits such as technology anxiety as moderators.

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