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The impacts of relationship marketing on cognitive dissonance, satisfaction, and loyalty:

The mediating role of trust and cognitive dissonance

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The impacts of relationship marketing on cognitive dissonance, satisfaction, and loyalty

Impact of relationship marketing

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The mediating role of trust and cognitive dissonance

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Abstract

Purpose – The purpose of this paper is to study how relationship marketing can reduce cognitive dissonance in post-purchase stage and, thereby, increase customer satisfaction and encourage loyalty under mediating roles of trust and cognitive dissonance.

Design/methodology/approach – Based on a survey on consumers of cell phones, the authors tested the effects of relationship marketing on cognitive dissonance and then customer satisfaction, behavioural, and attitudinal loyalty, using structural equation modelling.

Findings – The results indicate that, thanks to relationship marketing, consumers undertook less cognitive dissonance in post-purchase stage. Thus, as consumers faced less cognitive dissonance, they represented more satisfaction and thereby behavioural and attitudinal loyalty. Additionally, the study confirmed the mediating role of trust and cognitive dissonance.

Practical implications – The results show that when brands and retailers make their ties with their customers stronger and encourage trust, they can discourage cognitive dissonance in post-purchase stage and thereby encourage customer satisfaction and behavioural and attitudinal loyalty.

Originality/value – Literature on post-purchase behaviour and cognitive dissonance shows how cognitive dissonance can reduce post-purchase satisfaction. Our research adds to the literature of both relationship marketing and post-purchase behaviour.

Keywords Trust, Customer satisfaction, Communication, Cognitive dissonance, Attitudinal loyalty, Behavioural loyalty

Paper type Research paper

Introduction

Business practitioners have mainly been advised to strengthen ties between their firms and the customers. More specifically, this relationship was encouraged in marketing perspectives. When relationship marketing first emerged, some people considered it as a new fad (Palmer, 1996). Berry (1983) was a pioneer in defining the term “relationship



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marketing". This author regarded relationship marketing as "attracting, maintaining, and enhancing customer relationships". Lancaster and Massingham (2011) quoting from Athanasopoulou (2009) stated that our understanding on the concepts of relationship marketing is immature. They also mentioned that the concept is "complex" and there is no set of rules as to clarify when a relationship marketing approach is necessary. However, researchers started developing papers on relationship marketing and outlined the constructs (Baker *et al.*, 1998; Yau *et al.*, 2000; Chiu *et al.*, 2005; Ndubisi, 2007; Palmatier *et al.*, 2007). By definition, relationship marketing is building long-term and profitable customer relationships (Kotler, 2001; Kotler, 2003; Lancaster and Massingham, 2011). Kotler (2001) stated that the aim of relationship marketing is to build long-term mutually satisfying relations with key parties – including customers, suppliers, and distributors – as to earn and retain their long-term preference, resulting in economic, technical, social ties among the parties. On the basis of the definition and the aim of relationship marketing, we know that the relationship mainly starts when the purchase takes place.

When a purchase takes place, the company or the sales force can start the relationship with the customer. We must take into account that the beginning of this relationship is in coincidence with post-purchase stage, when the consumers feel the purchase is over (Wilkie, 1994; Solomon *et al.*, 2006; Lake, 2009). In a purchase, comparing the alternatives available to consumers, they may feel a mental discomfort, since consumers have to make one choice out of many (Solomon *et al.*, 2006; Lake, 2009). This discomfort intensifies as the consumer makes a purchase of high involvement such as a shopping product or a specialty product (Kaish, 1967; Kotler, 2001). This feeling is professionally coined as "cognitive dissonance". In this situation, consumers feel as if they are involved in annoying comparisons of buying another choice or making the purchase from another brand. For example, the consumer may say "what if I bought the black one?" Intense cognitive dissonance can cause dissatisfaction and, thereby, lead to buyer's remorse (Lake, 2009). In other words, the buyer may regret making the purchase. There are some papers offering ways to reduce the dissonance caused (Mittelstaedt, 1969; Cohen and Goldberg, 1970; Geva and Goldman, 1991; Dutta and Biswas, 2005; Jarcho *et al.*, 2011). However, to the best of our knowledge, very few studies provide explanations on the impacts that relationship marketing activities can have on cognitive dissonance as to influence buyer behaviour after a purchase, when the business-consumer relationship starts. Thus, it is important to empirically examine the relationship and the outcomes. Such understanding will help brands and retailers manage and direct their ties with their customers as a lever to reduce post-purchase dissatisfaction to some extent. More specifically, on the basis of the literature, we addressed the following research question:

RQ1. Is it possible to mitigate cognitive dissonance in post-purchase stage through relationship marketing activities and encourage satisfaction and loyalty?

Similarly, we developed a model as to test the relationship and find the outcomes. In this study, we first investigate the impacts of communication and trust, as two constructs of relationship marketing, on cognitive dissonance as to see if they are able to mitigate cognitive dissonance after the purchase of a cell phone. Cognitive dissonance is then regarded as a precedent for customer satisfaction to be located between relationship marketing and satisfaction (as Chiu *et al.*, 2005 suggested) to see how cognitive dissonance discourages satisfaction, and conversely how mitigating cognitive dissonance encourages satisfaction. At this point, our research aims at seeing

how brands and retailers can rely on communication and trust to indirectly facilitate satisfaction after the purchase. The outcomes of customer satisfaction in our study are behavioural and attitudinal loyalty, so we try to investigate how these types of loyalty are encouraged out of satisfaction. Additionally, this study uncovers the mediating role of trust and cognitive dissonance. Through examining the relationships stated and based on the findings of our survey in Iran, our study provides some hints for brands and retailers to help them gain customer satisfaction and loyalty and move towards customer retention.

Theoretical background and literature review

Relationship marketing

Scholars regarded relationship marketing from different perspectives. For example, Palmatier *et al.* (2007) categorized Relationship marketing programs into three levels – including social, structural, and financial programs. The latter can encourage incremental sales, and other incentives that finally can end in cost savings for the company (Boedeker, 1997; Palmatier *et al.*, 2007) and through utilitarian and hedonic value lead to customer loyalty (Chiu *et al.*, 2005). Additionally, Chiu *et al.* (2005) classified relationship marketing under financial, social, and structural bonds, all of which can enhance customer loyalty. Palmer (1996) also mentioned that relationship marketing has three levels including tactical, strategic, and philosophical levels.

Dimensions of relationship marketing orientation are also included in the literature. According to Palmer (1996) commitment, interdependence, and trust are central to relationship marketing. Pressey and Mathews (2000) also outlined high commitment, high trust, open communication, and long-term relationship as the indicators of relationship marketing. Likewise Ndubisi (2007) regarded trust, commitment, communication, and conflict handling as the constructs. Bonding is the dimension resulting in two parties – customer and supplier – that act in a unified manner towards a desired goal, removing doubt, creating trust, and forming close relationships. This dimension mainly looks for establishing loyalty. Empathy is the dimension enabling the two parties to see the situation from the perspective of each other in a cognitive sense and understand the desires and goals of someone else. Reciprocity is the dimension that causes each party to provide favour for the other in return of favours. Trust is the belief about the intentions of the other party within the relationship and, as a result, is the level to which each party feels that they can rely on the promise of the other. Trust is considered as the heart of other dimensions, since the greater the trust, the longer the relationship (Yau *et al.*, 2000; Berry, 2002).

Chattananon and Trimetsoontorn (2009) developed a model covering objectives, constructs, and instruments of relationship marketing. The objectives of relationship marketing are customer satisfaction, customer delight, share of customer, customer retention, and loyalty. Trust, commitment, co-operation, communication, shared values, conflict, power, non-opportunistic behaviour, and interdependence constitute the constructs of relationship marketing. And, the instruments are direct marketing, database marketing, quality management, services marketing, customer partnering, and catch-all phrases.

The outcomes of relationships with customers are trust, relationship commitment, and behavioural loyalty (Wulf and Odekerken-Schroder, 2003). Sharma *et al.* (1999) mentioned increase in sales and profits, less tough negotiations, and positive word-of-mouth as the benefits of relationships with customers. Financial outcomes of

relationship marketing include customer share, price premium, and sales growth (Palmatier *et al.*, 2007; O'Malley and Prothero, 2004).

Kumar *et al.* (2003) used the term relationship intention instead of relationship marketing and addressed that it refers to a customer's willingness to develop a relationship with a firm whilst buying something attributed to the very firm and stated that relationship intention differs from loyalty, since a customer may regard short-term consequences such as price and availability and buy a product and not because of loyalty – a point in line with the consequences of relationship marketing at a tactical level outlined by Palmer (1996). Studying customer loyalty, O'Malley and Prothero (2004) found that when consumers feel relationship marketing activities of a firm as a fad, they lose their trust. According to Ndubisi (2007), trust, communication, commitment, and conflict handling significantly contribute to customer loyalty. Additionally, retailers can influence consumer trust through rewarding consumers for their patronage (Wulf and Odekerken-Schroder, 2003). Alejandro *et al.* (2011) mentioned that relationship quality (including trust, satisfaction, and commitment) is not directly related to customer loyalty, but it is related to customer perceptions of value. Thus, relationship quality indirectly influences customer satisfaction through manipulation of their perceptions. When dealing with satisfied switchers, both social and structural bonds effectively enhance customer loyalty (Chiu *et al.*, 2005).

However, Ward and Dagger (2007) argued that relationship marketing does not work well for all products and for all customers. They surveyed consumers of five service products – doctors, hairdressers, electricity supplier, cinema, and bank – and found that relationship strength significantly varies between service products and individual customers and that the nature of service products has a great impact on the influence of duration of the relationship and the frequency of purchase on relationship strength. They also concluded that propensity for relationships with service providers significantly varies among individuals.

As the literature shows, in many cases relationship marketing can lead to customer satisfaction. Customer satisfaction or dissatisfaction can be attributed to buyer behaviour and more specifically to post-purchase behaviour (Wilkie, 1994; Solomon *et al.*, 2006; Lake, 2009). Thus, we can follow this outcome (loyalty) in the areas of consumer behaviour and consumer psychology.

Post-purchase behaviour and cognitive dissonance

Consumers consider various objectives whilst making purchase decision, but the four major ones include maximizing decision accuracy, minimizing decision effort, minimizing negative emotions during decision making, and maximizing the ease of justification of a decision. In decision making, bounded rationality plays a key role and consumers deal with limited information available to them and need to make a decision on this basis (Bettman *et al.*, 2008). Thus, they rely on heuristics (Tversky and Kahneman, 1974). However, the idea that supplying consumers with a huge amount of information causes difficulty in decision making and, thereby, a weak decision has been a controversial question (Bettman *et al.*, 2008). In fact, in decision making it is the amount of information that is critical, but not merely the number of attributes and alternatives, so that an increase in the number of different attribute levels possible and a more even distribution of the possible values across options makes decision more complicated and increases selectivity (Lurie, 2004). In decision making, there is a cost to processing information, and consumers suffer from such a cost as it rises along with the increase in the complexity of decision (Wierenga, 2008). Kotler (2001) considered

this cost as a psychic cost in the value equation, where consumers get benefits and assume costs. A point to regard is that when the complexity of decision increases, people try to reduce the complexity using their own strategies. To do so, consumers either rely on heuristics (Tversky and Kahneman, 1974) or simply repeat their last decision to arrive at a satisfactory, if occasionally suboptimal, decision (Wierenga, 2008). Processing information arises when consumers try to search for information and evaluate alternatives to reach a decision. Thus, this phase can be the origin of duality (Richter, 1979) and, thus, give rise to a mental discomfort, since either inadequate information or overflow of information causes complexity (Tversky and Kahneman, 1974) of the possible values across options, making the decision more complicated and increasing selectivity (Lurie, 2004; Bettman *et al.*, 2008).

As consumers proceed with the rest of purchase process, they may feel the previously mentioned discomfort, or dissonance, intensifying. Some scholars (Festinger, 1957; Sweeney *et al.*, 2000) noted that dissonance has two types – one is cognitive dissonance which mainly deals with the knowledge and the cognition of individuals about themselves, and the other is emotional dissonance which in Festinger's view is the painful aspect of the decision task. Sweeney *et al.* (2000) also mentioned that cognitive dissonance in purchase decision making has two dimensions. One is “wisdom of purchase” and the other is “concern over the deal”. Thus, one can conclude that cognitive dissonance both covers the necessity of a product being purchased and the fairness of the purchase. Basically, cognitive dissonance is a duality in which people find their attitudes different from the reality, or at least feel in this way (Solomon *et al.*, 2006; Cooper, 2007; Lake, 2009). Humans do not like instability, since, bothering us, instability makes us try to reduce the instability caused (Cooper, 2007; Chen, 2011). The more the instability, the more the turmoil, and the greater the motivation to reduce the instability (Cooper, 2007). In fact whenever we make a decision, we often have some degree of cognitive dissonance (Chen, 2011). In consumer behaviour, cognitive dissonance is basically regarded as a phenomenon occurring in the post-purchase stage, after the purchase is over and consumers face the actual performance of the product and compare that with their expectations, thereby feeling a duality or a mental discomfort (Solomon *et al.*, 2006; Lake, 2009; Telci *et al.*, 2011; Lancaster and Massingham, 2011). In many cases in order to relieve the discomfort caused, consumers may rely on illogical thoughts and actions or on heuristics (Lake, 2009; Cappelletti *et al.*, 2011), and this in fact can end in buyer's remorse (Lake, 2009).

We must take into consideration the fact that this mental discomfort – cognitive dissonance – mostly occurs whilst making a purchase of high involvement, such as a shopping product or a specialty product (Kaish, 1967; Oshikawa, 1969; Kotler, 2001; Solomon *et al.*, 2006; Chen, 2011). Pei (2013) stated that the degree of cognitive dissonance lies heavily on the importance of the decision, the attractiveness and the number of the available alternatives, and also the inter-similarities between the alternatives. However, Gbadamosi (2009) found that cognitive dissonance is even present in purchase of the products of low involvement. This researcher found that even in products of low involvement, decision makers experience cognitive dissonance. This fact shows the ubiquity of cognitive dissonance in decision making. Another important point to regard is that cognitive dissonance is a precedent for satisfaction (Solomon *et al.*, 2006; Lake, 2009; Chen, 2011; Shao and Shao, 2011; Park *et al.*, 2012). High cognitive dissonance can cause dissatisfaction (Cooper, 2007; Lake, 2009) and reducing cognitive dissonance can prevent dissatisfaction and encourage satisfaction and motivate the person to justify the decision and reduce the dissonance

(Cooper, 2007). Thus, we must keep in mind that when consumers feel the dissonance and do not find anything available to them to rationalize the decision, they may unconsciously rely on the fundamental attribution error (Robbins and Judge, 2009) and blame the company offering the product for the fault.

People need something to compensate the cognitive dissonance caused and rationalize the inconsistency (Dickinson and Oxoby, 2011). For example, according to the literature, various ways are adopted to reduce consumer's cognitive dissonance, such as increasing post-purchase communication and decreasing the decision maker's anxiety (Chen, 2011). Moreover, when consumers are optimistic, they are insensitive to cognitive dissonance (Pei, 2013). In cases, consumers modify their attitudes to reduce cognitive dissonance. More specifically, they accentuate the importance of the option they have chosen and also try to ignore the attractiveness of other alternatives available (Jarcho *et al.*, 2011). Predictability of cognitive dissonance also can be a tool to prevent it and, as a result, reduce it. The more predictable the cognitive dissonance, the harder the efforts to prevent it (Oshikawa, 1969). Another factor that can reduce cognitive dissonance is prior experience with and exposure to the brand (Cohen and Goldberg, 1970).

As the literature on relationship marketing suggests, relationship marketing activities lead to customer satisfaction. Chattananon and Trimetsoontorn (2009) regarded customer satisfaction as an outcome of relationship marketing. Pressey and Mathews (2000) studied the factors facilitating relationship marketing and found that a high level of personal contact and a high level of customer involvement facilitate conditions for relationship marketing. In other words, in such conditions the customer feels delighted with the purchase experience, leading to satisfaction. Ndubisi (2007) studied the impacts of communication, trust, commitment, and conflict handling (as the constructs of relationship marketing) on customer loyalty – the outcome of customer satisfaction according to Walsh *et al.* (2010); Flint *et al.* (2011); and Pan *et al.* (2012) – and found that trust and communication have the power to encourage customer loyalty in bank-customer relationship.

The literature shows that cognitive dissonance is the precedent for satisfaction (Solomon *et al.*, 2006; Lake, 2009; Chen, 2011; Shao and Shao, 2011; Park *et al.*, 2012). In other words, it is a determinant for customer satisfaction, as it can encourage both satisfaction and dissatisfaction. Shao and Shao (2011) studied the impacts of dissonance on decision satisfaction and concluded that dissonance negatively influences consumer decision satisfaction. In other words, it means that the more the dissonance, the less the satisfaction, and vice versa. Lake (2009) stated that cognitive dissonance can turn out to be regret, or buyer's remorse in her regards. Bui *et al.* (2011) studied the impacts of regret on consumer post-purchase decisions and concluded that regret has a negative influence on satisfaction levels and a positive influence on brand switching intention. It shows that as consumers feel intense dissonance after the purchase, dissatisfaction can occur, encouraging them to switch to other brands. Park *et al.* (2012) studied the impact of dissonance on consumer satisfaction and found that the degree of dissonance affects consumer satisfaction. Thus, we must note that the impacts of cognitive dissonance on satisfaction or other similar variables are negative.

We regard customer satisfaction as an outcome of relationship marketing. Nevertheless, Selnes (1998) and Büttner and Göritz (2008) found that satisfaction leads to trust. Similarly, Ganesan (1994) concluded that satisfaction encourages trust. However, several scholars (Bejou *et al.*, 1998; Terawatanavong *et al.*, 2007) concluded

that trust encourages satisfaction. Therefore, we regarded trust as an antecedent to satisfaction. Additionally, as Chiu *et al.* (2005) stated, the link between relationship marketing and customer satisfaction is indirect. In other words, relationship marketing impacts satisfaction through a mediator. Moreover, as the literature on cognitive dissonance shows, cognitive dissonance is an antecedent to satisfaction. Thus, we first measure the impacts of communication and trust – as two constructs of relationship marketing in our study – on cognitive dissonance and through cognitive dissonance – as a mediator in this study – on customer satisfaction. From above, *H1*, *H2*, and *H3* are developed:

H1. Communication of brands and retailers will have a negative impact on consumers' cognitive dissonance.

Communication is the construct of relationship marketing, by which customers communicate with the brand and gain information on products and services. Studies showed that communication has a positive impact on customer satisfaction (Pressey and Mathews, 2000; Ndubisi, 2007; Chattananon and Trimetsoontorn, 2009). The literature shows that cognitive dissonance is the precedent for satisfaction (Solomon *et al.*, 2006; Lake, 2009; Chen, 2011; Shao and Shao, 2011; Park *et al.*, 2012). Moreover, Chiu *et al.* (2005) stated that the link between relationship marketing and customer satisfaction is indirect. More specifically, Milliman and Decker (1990) and Chen (2011) argued that increasing post-decision communication can reduce the individual's cognitive dissonance. Thus, we first measure the impacts of relationship marketing activities on cognitive dissonance and through cognitive dissonance on customer satisfaction:

H2. Consumers' trust in brands and retailers will have a negative impact on their cognitive dissonance.

Trust is the construct of relationship marketing which is central to it (Palmer, 1996; Pressey and Mathews, 2000; Berry, 2002; Ndubisi, 2007). Trust also leads to customer satisfaction (Bejou *et al.*, 1998; Terawatanavong *et al.*, 2007; Chattananon and Trimetsoontorn, 2009; Alejandro *et al.*, 2011). Additionally, we know that cognitive dissonance precedes satisfaction (Solomon *et al.*, 2006; Lake, 2009; Chen, 2011; Shao and Shao, 2011; Park *et al.*, 2012). Chiu *et al.* (2005) also mentioned the role of a precedent for satisfaction. Morgan and Hunt (1994) found that trust can weaken the attractiveness of short-term alternatives as individuals prefer to stay with the current partner which they trust. In other words, we can infer that as individuals bear less pressure to evaluate alternatives, they face less cognitive dissonance (for more information refer to Sweeney *et al.*, 2000). Therefore, we measure the influence of trust on cognitive dissonance as to measure the impact on satisfaction afterwards:

H3. Cognitive dissonance will negatively impact satisfaction.

A look at satisfaction/dissatisfaction theory (Wilkie, 1994; Solomon *et al.*, 2006) in consumer behaviour along with the theory of cognitive dissonance shows that satisfaction suffers when consumers feel high cognitive dissonance (Mittelstaedt, 1969; Cohen and Goldberg, 1970; Geva and Goldman, 1991; Dutta and Biswas, 2005; Solomon *et al.*, 2006; Lake, 2009; Jarcho *et al.*, 2011). Jones *et al.* (2010) regarded emotions as the

antecedent for customer satisfaction and concluded that shoppers' negative emotions discourage satisfaction. In this regard, negative emotion is to some extent similar to cognitive dissonance, since in both of them the greater the power of each, the lower the satisfaction and vice versa. Thus, when consumers undergo inconsiderable cognitive dissonance, or at least when cognitive dissonance is reduced immediately, satisfaction is more likely to grow (Mittelstaedt, 1969; Cohen and Goldberg, 1970; Geva and Goldman, 1991; Dutta and Biswas, 2005). However, we must regard that although we can reduce the dissonance, we cannot reduce the dissonance to zero (Chen, 2011; Pei, 2013).

Customer satisfaction and loyalty

As discussed earlier, relationship marketing and cognitive dissonance both have something in common; both of them can influence customer satisfaction (Chiu *et al.*, 2005; Solomon *et al.*, 2006; Ndubisi, 2007; Chattananon and Trimetsoontorn, 2009; Lake, 2009; Alejandro *et al.*, 2011; Chen, 2011; Shao and Shao, 2011; Park *et al.*, 2012). When customers are satisfied they may exhibit loyalty to some extent. Loyalty, by definition, is getting customers to commit themselves to the rewarding long-term transactions (Takala and Uusitalo, 1996; Boedeker, 1997; Pressey and Mathews, 2000; Shrivastava and Kale, 2003; Ndubisi, 2007; Park *et al.*, 2012). Satisfaction is one of the antecedents of customer loyalty and has a positive impact on loyalty (Deng *et al.*, 2010; Liu *et al.*, 2011; Chen, 2012). Additionally, Nam *et al.* (2011) outlined consumer satisfaction as the precedent for brand loyalty. In fact, a key objective of relationship marketing is to encourage customer loyalty (Ndubisi, 2007). As mentioned before, Palmer (1996) also mentioned the impacts of relationship marketing levels – tactical, strategic, and philosophical levels – on customer loyalty. Toufaily *et al.* (2013) developed a thematic classification of loyalty including online, electronic, internet, and web site loyalty, and online retention.

Whilst studying loyalty, we need to consider the distinction between attitudinal loyalty and behavioural loyalty. Attitudinal loyalty as its name suggests deals with the attitudes of customers, and more specifically with cognitive, affective, and conative aspects in a way that consumers reach ultimate loyalty despite situational influences or other things encouraging consumers to switch brands; however, behavioural loyalty centres on actual purchase behaviour and is repeating the purchase behaviour. In fact, attitudinal loyalty arises from emotional ties with a brand and backs up behavioural loyalty. Thus, one measurement for behavioural loyalty is buying frequency (Leenheer *et al.*, 2007; Nam *et al.*, 2011; Romaniuk and Nenycz-Thiel, 2011; Puligadda *et al.*, 2012). Additionally, Puligadda *et al.* (2012) stated that retailer's relationship marketing tactics positively influence behavioural loyalty to the products involved.

An important finding in the study of Flint *et al.* (2011) is that customer satisfaction leads to customer loyalty. Similarly, Nam *et al.* (2011) studied some qualities that encourage customer satisfaction and brand loyalty and found that customer satisfaction leads to brand loyalty. Similar to Liu *et al.* (2011), Deng *et al.* (2010) studied customer satisfaction and loyalty and found that satisfaction positively influences loyalty. In their study, trust was a precedent for both satisfaction and loyalty and was positively significant. Likewise, Chen (2012) studied consumer behaviour in e-service environment and concluded that customer satisfaction leads to customer loyalty. As discussed earlier, in the literature there are several types of loyalty, two of which are behavioural and attitudinal (intentional) loyalty. Thus, the following hypotheses are developed:

H4. Customer satisfaction will have a positive impact on behavioural loyalty.

Studying consumers of online shops, Tsai and Huang (2007) found that consumers' overall satisfaction with the online shopping web sites encourages repurchase intentions. Similarly, Kuo and Wu (2012) studied the reactions of consumers to failure of service recovery of online shops and concluded that post-recovery of service failure in online shopping web sites positively influences post-purchase intentions among the shoppers. Customer satisfaction encourages future repurchase intentions and increases buying frequency. Thus, it has a positive influence on behavioural loyalty. In other words, the more the satisfaction, the more the repurchase frequency (Wulf and Odekerken-Schroder, 2003; Park *et al.*, 2012; Puligadda *et al.*, 2012). Satisfied customers are more likely to repeat a purchase:

H5. Customer satisfaction will have a positive impact on attitudinal loyalty.

As mentioned earlier, through attitudinal loyalty consumers have emotional ties with the brand involved. Thus, customers have cognitive, affective, and conative links with the brand involved (Leenheer *et al.*, 2007; Nam *et al.*, 2011; Romaniuk and Nenycz-Thiel, 2011; Puligadda *et al.*, 2012). Satisfied customers may unconsciously establish emotional ties with the brand delivering the product.

Trust and communication are both regarded as two constructs of relationship marketing (Palmer, 1996; Pressey and Mathews, 2000; Yau *et al.*, 2000; Ndubisi, 2007). Yau *et al.* (2000) mentioned that trust is the heart of the constructs of relationship marketing. Hunt *et al.* (2002) and Becerra and Gupta (2003) also mentioned the relationship between communication and trust. Thus, trust can have a meaningful relationship with communication, through which it can influence communications. Consequently, *H6* is developed:

H6. There will be a positive relationship between trust and communication.

In *H2*, the impact of trust on cognitive dissonance was direct. Trust plays a key role in building relationships (Liu *et al.*, 2011). Liu *et al.* (2011) found that both satisfaction and trust have positive impacts on customer loyalty. Similarly, Tsai (2011) concluded that trust positively influences brand loyalty. He *et al.* (2012) studied the antecedents of brand loyalty and concluded that trust positively impacts brand loyalty. Amin *et al.* (2012) worked on telecommunication environment and concluded that trust significantly impacts customer loyalty. Kim *et al.* (2008) concluded that among internet shoppers trust positively influences consumers' purchase intentions. Hong and Kim (2012) found that consumers trust significantly impacts customers' intention to purchase from online store. Hahn and Kim (2009) found that consumer trust in an offline store cannot impact consumers' behavioural intention towards the online store. However, they concluded that perceived confidence of shopping at the offline store can influence behavioural intention towards the online store. In other words, their study uncovered the important role of trust in encouraging confidence towards a store with which the consumer had prior shopping experience, and also in indirectly (through increasing confidence) encouraging online behavioural intention to the store. Liu *et al.* (2011) stated that trust is an important mediating factor before and after the purchase, since it can end in long-term loyalty between the two parties. Broadly speaking, when customers trust a brand or retailer, they are more likely to repeat the purchase from that brand or retailer and exhibit loyalty. Therefore, in this study we consider trust as a mediator for customer

satisfaction, behavioural, and attitudinal loyalty. Thus, the following hypotheses are developed:

H7. Trust will have a positive and indirect impact on customer satisfaction.

H8. Trust will have a positive and indirect impact on behavioural loyalty.

H9. Trust will have a positive and indirect impact on attitudinal loyalty.

The impact of cognitive dissonance on customer satisfaction in this study is direct. However, in structural equation modelling any variable can influence other variables (Byrne, 2010). Thus, cognitive dissonance can indirectly influence behavioural and attitudinal loyalty. In other words, cognitive dissonance is regarded as the mediator in this study. Therefore, *H10* and *H11* are developed:

H10. Cognitive dissonance will have a negative and indirect impact on behavioural loyalty.

H11. Cognitive dissonance will have a negative and indirect impact on attitudinal loyalty.

On the basis of the literature, we considered the following framework as the basis for the paper, over which we tested the hypotheses outlined above. The dashed-arrows in the framework show the indirect impacts or the mediating role of trust and cognitive dissonance.

Methodology

Product selection

In this study, we need to take into account a product of high involvement to measure the research constructs. Kotler (2001) categorized consumer goods into three categories: including convenience goods, shopping goods, and specialty goods. Kaish (1967) studied the relationship between these consumer goods and cognitive dissonance. A close look at the insights here reveals that a consumer product must be regarded with the following features:

- a shopping good;
- a product the consumers deal with everyday in their lives;
- a product the consumers need to have at least one shopping experience;
- a product branded by a handful of companies;
- a product having marketing communications in different media; and
- a product having self-image, one that the consumers perceive as an influential factor for their self-image (Kaish, 1967; Geva and Goldman, 1991; Richins and Bloch, 1991; Kotler, 2001; Doyle, 2008).

Taking such considerations into account, we can say that some choices can be cell phones, laptops, digital music players, iPads, compact digital cameras, and small home appliances. On the basis of considerations involved, we selected cell phones as the product of the study. Cell phones are widely used in nearly everybody's life, and

the consumers of these products usually have to weigh a long list of products and evaluate the advantages and disadvantages. It makes the consumers encounter really high involvement whilst making the decision. Additionally, regarding the regular usage of these devices, the consumers evaluate the products they have already purchased and those that were available to them in purchase decision making. Thus, we can say that cell phones are the products associated with high involvement purchase effort and, as a result, are suitable for this study.

Sample and data

All cell phone users in Tehran constitute the population of the research. Because of the distribution of users all around the city, we selected three urban districts using cluster sampling (Adams *et al.*, 2007). In each district, we selected three sections as the research population. It took us nine days to gather data on 305 questionnaires. Considering the data gathering of the pilot study a week before, we can say that the whole data gathering process lasted for ten days. On the basis of the pilot study on 40 respondents, we used the formula of unlimited society to measure the size of sample society, as follows:

$$n = \left(\frac{Z_{\alpha/2} \times \delta}{\varepsilon} \right)^2 = \left(\frac{1.96 \times 0.535}{0.06} \right)^2 = 305.20 \approx 305$$

Using convenience sampling and questionnaires, 400 respondents were identified, 346 questionnaires were completed and 305 questionnaires were acceptable.

Sample demographics

We considered gender, age, education as demographics of the sample. Table I shows the result of sample demographics. A point to mention is that all the respondents had at least one experience in buying a cell phone.

Instrument and measurement

To gather the data necessary for the study a questionnaire was adopted. The questionnaire was designed based upon the purpose of the study and the measures in the

Characteristics	Categories	Frequency	%
Gender	Male	171	56.1
	Female	134	43.9
Age	19 and lower	21	6.9
	20-24	57	18.7
	25-29	126	41.3
	30 and over	101	33.1
Education	Diploma	47	15.4
	Undergraduate	175	57.4
	Graduate and post graduate	83	27.2
Brand of cell phone	Nokia	98	32.1
	Samsung	78	25.6
	Sony Ericson	49	16.1
	HTC	49	16.1
	Apple	31	10.1

Note: $n = 305$

Table I.
Sample demographics

literature involved (Chiu *et al.*, 2005; Ndubisi, 2007; Bhattacharjee, 2001; Chen, 2011; Zhang *et al.*, 2011; Flint *et al.*, 2011; Puligadda *et al.*, 2012; Toufaily *et al.*, 2013; Xie and Heung, 2012), using a five-point Likert scale, where 1 represented “never” and 5 represented “always”. The study was conducted in the participants’ native language (Persian). Therefore, the terminologies used in the questionnaire were translated from English. Translation was cross checked by five professors of University of Tehran and when necessary, more than one word was provided. We allocated three questions to cognitive dissonance, communication, trust, customer satisfaction, behavioural loyalty, and attitudinal loyalty each. The self-administrated paper-pencil questionnaire consisted of two parts. First, the respondents answered to demographic questions plus some questions about their cell phones including the brand of their cell phones, and then to the items covering the variables of the study. We, first, implemented the pilot to measure the sample size as mentioned before. Maximum likelihood analysis was implemented in AMOS 20 to assess confirmatory factor model, the reliability and validity of all theoretical constructs in the study. Table II represents the analysis of measures of the questionnaire, including average variance extracted (AVE), construct reliability, and standardized factor loadings.

Data analysis and results

Measurement, reliability, and validity

To determine the measurement properties of the scale, we applied maximum likelihood estimation in AMOS and assessed the confirmatory factor model entailing all theoretical constructs (Anderson and Gerbing, 1988). As Table II represents, AVE – ranging between 0.59 and 0.71, construct reliability – ranging between 0.81 and 0.88, and standardized factor loadings – ranging between 0.72 and 0.91, all showed sufficient item validity and reliability (Anderson and Gerbing, 1988; Byrne, 2010).

In regard to the validity of self-report questionnaires, we measured the impacts of common method variance (CMV). We relied on Harman’s single-factor test (Podsakoff *et al.*, 2003; Malhotra *et al.*, 2006). According to Podsakoff *et al.* (2003), in this method all items are subject to exploratory factor analysis (EFA). However, Malhotra *et al.* (2006) regarded confirmatory factor analysis (CFA) as an alternative to EFA in this test. In this method, all items are modelled as the indicators of a single factor that shows the effects of method. If the second CFA model does not fit the data (refer to Bagozzi and Yi, 1986; Byrne, 2010), one can say that method biases are not substantial and vice versa. As we relied on Harman’s single-factor test using the CFA model, the fit indices were as follows: $\chi^2(df) = 1,589(268)$, $p < 0.001$; incremental fit index (IFI) = 0.57; confirmatory fit index (CFI) = 0.57; goodness of fit index (GFI) = 0.67; adjusted goodness of fit index (AGFI) = 0.60; root mean square error of approximation (RMSEA) = 0.14. Thus, the indices indicate that CMV was not serious in this study.

Table III shows that all inter-construct correlations were significantly lower than one, showing satisfactory results for the test of discriminant construct validity (Anderson and Gerbing, 1988). For a better understanding of the relationship between research variables, a look at inter-construct correlations can be helpful.

Estimation and fit

GFI: $\chi^2(129) = 654$, $p < 0.001$; IFI = 0.96; CFI = 0.96; GFI = 0.95; AGFI = 0.96; and RMSEA = 0.06 meet the criteria (Bagozzi and Yi, 1986; Byrne, 2010). Thus, the measurement model fits the data well.

Construct items and scale reliability	Construct reliability	Average variance extracted	Standardized factor loadings
<i>Communication</i> (source: Chiu <i>et al.</i> , 2005; Ndubisi, 2007)	0.81	0.59	
The company is concerned with my needs			0.77
The company keeps in touch with me and has established a good relationship			0.82
The company offers a variety of ways to get information efficiently			0.72
<i>Trust</i> (source: Chiu <i>et al.</i> , 2005; Ndubisi, 2007)	0.88	0.71	
The company provides information when there is a new service available			0.84
The company makes and fulfills promises			0.88
Product information provided by the company is always accurate			0.80
<i>Cognitive dissonance</i> (source: Chen, 2011; Zhang <i>et al.</i> , 2011; Xie and Heung, 2012)	0.86	0.67	
Overall, I am extremely dissatisfied with my purchase on my cell phone			0.82
After I bought this product, I thought I'd been fooled			0.83
I believe that this brand is sometimes unable to meet my expectations			0.80
<i>Customer satisfaction</i> (source: Bhattacharjee, 2001; Flint <i>et al.</i> , 2011)	0.86	0.67	
I am satisfied with my decision on my cell phone purchase			0.82
My choice to buy my cell phone was a wise one			0.83
In general, I am very pleased with the products and services offered by this supplier			0.80
<i>Behavioral loyalty</i> (source: Puligadda <i>et al.</i> , 2012; Toufaily <i>et al.</i> , 2013)	0.84	0.63	
As long as products from this brand are available, I doubt that I will change it			0.79
When I need to make a purchase, this brand is my first choice			0.78
I rarely consider changing for another brand			0.81
<i>Attitudinal loyalty</i> (source: Puligadda <i>et al.</i> , 2012; Toufaily <i>et al.</i> , 2013)	0.86	0.68	
I would say positive things about the company to other people			0.78
I would encourage friends and relatives to use this company			0.91
I recommend the company to those who seek my advice on such topics			0.77

Note: Measured on a Likert five scale, 1 = never, 5 = always

Table II.
Measures

Conceptual model findings

To test the conceptual model, we employed latent variable equation modelling with maximum likelihood estimation (refer to Figure 1). Structural equation modelling helps control for measurement error and, thus, helps improve reliability and validity. It is based upon the analysis of correlation and covariance structures and is used for causal

modelling (Bollen, 1989). The overall fit of structural model is significant ($\chi^2(129) = 654, p < 0.001$). However, additional indices of goodness-of-fit of the structural model (IFI = 0.96, CFI = 0.96, GFI = 0.95, AGFI = 0.96, RMSEA = 0.06) all meet the recommended levels demonstrating that the model fits the data well (Bagozzi and Yi, 1986).

Respondents, consumers of cell phones in Tehran, were supposed to answer fixed-alternative questions about communication, trust, cognitive dissonance, satisfaction, behavioural loyalty, and attitudinal loyalty.

Then, we implemented the statistical tests to test the hypotheses. Table IV shows the results of hypotheses testing using structural equation modelling, in AMOS.

As Table IV shows, *H1* is rejected ($\beta = -0.153, t = -0.976, p = 0.329$). It shows that communication between consumers and the brand does not have a meaningful impact on cognitive dissonance. In other words, communication as a construct of relationship marketing cannot reduce cognitive dissonance in the users of cell phones in the study. *H2* is supported ($\beta = -0.964, t = -30.378, p < 0.001$). *H2* implies that trust, another construct of relationship marketing, has a meaningful and negative influence on cognitive dissonance. It shows as trust rises by 1, cognitive dissonance goes down by 0.964. Indeed, due to trust, cell phone users experience inconsiderable cognitive dissonance. β coefficient for the regression path in *H2* is the greatest among the results

	Communication	Trust	Cognitive dissonance	Customer satisfaction	Behavioral loyalty	Attitudinal loyalty
Communication	1					
Trust	0.614***	1				
Cognitive dissonance	-0.341***	-0.464***	1			
Customer satisfaction	0.347***	0.395***	-0.398***	1		
Behavioral loyalty	0.451***	0.539***	-0.538***	0.508***	1	
Attitudinal loyalty	0.572***	0.924***	-0.512***	0.467***	0.528***	1

Note: *** $p < 0.001$

Table III.
Construct inter-correlations

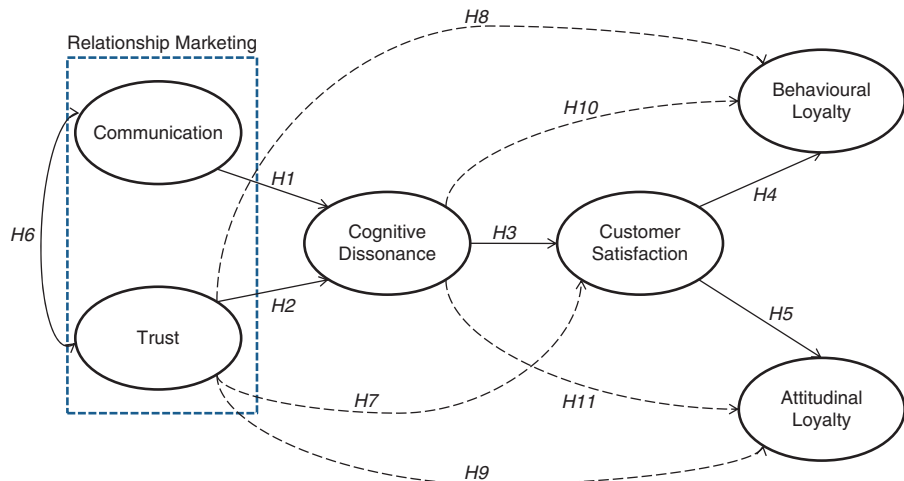


Figure 1.
The conceptual framework for the study

Hypotheses sign	Path from → to	Estimates	SE	$n = 305$ t -value	Conclusion
H1	Communication → cognitive dissonance	-0.153	0.157	-0.976	Rejected
H2	Trust → cognitive dissonance	-0.964	0.285	-3.378***	Supported
H3	Cognitive dissonance → customer satisfaction	-0.759	0.080	-9.509***	Supported
H4	Customer satisfaction → behavioral loyalty	0.255	0.068	3.765***	Supported
H5	Customer satisfaction → attitudinal loyalty	0.703	0.077	9.118***	Supported
H6	Correlation Communication ↔ trust	0.194	0.035	5.569***	Supported
Mediation analysis					
H7	Trust → customer satisfaction	0.386**	0.124	0.165	Supported
H8	Trust → behavioral loyalty	0.381**	0.119	0.163	Supported
H9	Trust → attitudinal loyalty	0.307**	0.101	0.132	Supported
H10	Cognitive dissonance → behavioral loyalty Cognitive dissonance → attitudinal loyalty	-0.843***	0.047	-0.843	Supported
Goodness of fit statistics					
χ^2 (df) = 654(129); $p < 0.001$					
IFI = 0.96; CFI = 0.96; GFI = 0.95; AGFI = 0.96; RMSEA = 0.062					
H11		-0.703**	0.049	-0.703	Supported

Notes: Taken into account that the direction of the relationships was predicted in the study, and the p -values are one-tailed in *H1-H5*, but two-tailed in *H6-H11*. *** $p < 0.001$; ** $p < 0.01$

Table IV. Testing the proposed model relationships

in the study. The results show that *H3* is also supported ($\beta = -0.759$, $t = -9.509$, $p < 0.001$). Cognitive dissonance has a meaningful and negative impact on customer satisfaction. As cognitive dissonance goes up by 1, customer satisfaction goes down by 0.759. Conversely, when cognitive dissonance goes down by 1, customer satisfaction goes up by 0.759. Thus, the less the cognitive dissonance, the more the customer satisfaction, and vice the versa. *H4* is supported ($\beta = 0.255$, $t = 3.765$, $p < 0.001$). Thus, customer satisfaction has a meaningful and positive impact on behavioural loyalty. The result implies that as customer satisfaction rises by 1, behavioural loyalty rises by 0.255. Certainly, customer satisfaction among cell phone users encourages behavioural loyalty and, as a result, increases future buying frequencies. *H5* is supported ($\beta = 0.703$, $t = 9.118$, $p < 0.001$). Customer satisfaction also has a meaningful and positive influence on attitudinal loyalty. The path analysis shows that as customer satisfaction goes up by 1, attitudinal loyalty goes up by 0.703. Therefore, customer satisfaction encourages cell phone users' cognitive, affective, and conative ties with the brands. We must take into consideration that the impact of customer satisfaction on attitudinal loyalty is much more than that of customer satisfaction on behavioural loyalty. *H6* is supported too ($p = 0.194$, $t = 5.569$, $p < 0.001$). Correlation analysis shows that there is a meaningful and positive relationship between communication and trust.

Mediation analysis

According to Zhao *et al.* (2010), a bootstrap test of mediation was performed to test the indirect effect of trust on customer satisfaction, behavioural, and attitudinal loyalty, and also the indirect influence of cognitive dissonance on behavioural and attitudinal loyalty. To do so, we employed 5,000 bootstrap samples and 95 per cent confidence interval as recommended by Preacher *et al.* (2007). As predicted, *H7* is significant ($\beta = 0.386$, $SE = 0.124$, $t = 3.112$, $p < 0.01$, 95 per cent $CI = 0.165-0.639$). It shows that the indirect impact of trust on customer satisfaction is significant. *H8* is also significant ($\beta = 0.381$, $SE = 0.119$, $t = 3.202$, $p < 0.01$, 95 per cent $CI = 0.163-0.616$). It shows that trust has an indirect influence on behavioural loyalty. *H9* is supported ($\beta = 0.307$, $SE = 0.101$, $t = 3.039$, $p < 0.01$, 95 per cent $CI = 0.132-0.513$). Hypothesis testing shows that trust has an indirect impact on attitudinal loyalty. A point to mention is that the coefficient of trust on behavioural loyalty is slightly greater than that of trust on attitudinal loyalty. *H10* is also supported ($\beta = -0.843$, $SE = 0.047$, $t = -17.936$, $p < 0.001$, 95 per cent $CI = -0.843$ to -0.660), proving the mediating role of cognitive dissonance. It indicates that cognitive dissonance indirectly and negatively influences behavioural loyalty. Finally, *H11* is supported ($\beta = -0.703$, $SE = 0.049$, $t = 14.347$, $p < 0.01$, 95 per cent $CI = -0.703$ to -0.510). It shows that cognitive dissonance indirectly and negatively affects attitudinal loyalty. The coefficient of cognitive dissonance on behavioural loyalty (-0.843) is greater than the coefficient of cognitive dissonance on attitudinal loyalty (-0.703). Therefore, the mediation analysis confirms the mediating role of both trust and cognitive dissonance.

Discussion

Our data support majority of the proposed hypotheses. However, there is an exception. Communication, as a construct of relationship marketing, did not have a meaningful impact on cognitive dissonance ($\beta = -0.153$, $t = -0.976$, $p = 0.329$). As a result, the communications of the brands involved in our study could not reduce cognitive dissonance among the population of the study. We must notice the correlation between

trust and communication, as *H6* proposed. Trust is considered as the heart of constructs of relationship marketing (Yau *et al.*, 2000). Thus, regarding the meaningful correlation between trust and communication in the study, we can infer that trust could have affected the impact of communication on cognitive dissonance, and, consequently, the impact of communication is not meaningful. Another point to consider is the indirect influence of trust on customer satisfaction, behavioural and attitudinal loyalty. Similarly, the hypothesis testing proved the mediating role of cognitive dissonance on behavioural and attitudinal loyalty.

Theoretical contribution of the present research

This research follows the previous efforts made to uncover the impacts of relationship marketing activities on customer satisfaction. However, we regarded the role of cognitive dissonance in this relationship, and regarded cognitive dissonance as the precedent for customer satisfaction (similar to Park *et al.*, 2012). In this regard, we found that the impact of cognitive dissonance on customer satisfaction is meaningful and really considerable – the β coefficient for the impact is -0.759 . Additionally, cognitive dissonance has indirect impacts on behavioural and attitudinal loyalty. Indeed, this fact uncovers a key factor in customer satisfaction or dissatisfaction. Thus, researchers must consider this influence and look for ways to weaken it.

In our research, we studied the impacts of communication and trust, as the constructs of relationship marketing, and tested to see if they can reduce cognitive dissonance and foster satisfaction and loyalty. In summary, our research has an emphatic view of consumer psychology in relationship marketing. On its own merits, the results of our study provide managerial implications to be used in formulating marketing strategy.

Managerial implications

This research has some practical implications. First, it implies that all customers and consumers experience cognitive dissonance to some extent. As cognitive dissonance is a precedent for customer satisfaction, marketing managers must look for ways to reduce the cognitive dissonance caused, since it can discourage satisfaction and, thereby, loyalty. They can fortify relationship marketing activities – such as communication and trust in our study – to follow customers after a purchase of high-involvement and reduce severe cognitive dissonance. As Jarcho *et al.* (2011) concluded, consumers try to reduce dissonance on their own, even through justification of a decision. Thus, marketing managers can accompany such inherent efforts and reduce cognitive dissonance after the purchase. In this way, they can guide their efforts and strategies towards customer retention and care.

Second, we conclude that communication did not have a meaningful impact on cognitive dissonance. Thus, marketing managers must regard this fact as a key factor and accompany their communications with their customers with other activities such as building trust as to strengthen their communications.

Third, in the case of cell phones, we found that cell phone users in our study exhibited attitudinal loyalty more than behavioural loyalty. This shows that in case of a product of high-involvement such as a cell phone, consumers mainly think about the brands that make consumers involved rather than act in a real situation and repeat a purchase. Thus, marketing managers must look for ways as to address their relationships with their customers in a way that their relationships encourage them behaviourally along with attitudinally to the point of purchase to increase sales.

Limitations and future research directions

While contributing important issues to areas of consumer psychology in relationship marketing, our research suffers from some limitations. First and foremost, our research suffers from the usual limitations of using paper and pencil measures of human behaviour, which in essence is absolutely complicated and hard to measure. Some researchers such as Jarcho *et al.* (2011) relied on functional magnetic resonance imaging to meet this limitation, but at this point, such facilities were not available to us. Additionally, another limitation in our study is the age of respondents, which might partially affect our findings. The maximum age of respondents in our research was 39. However, this is mainly the nature of consumers of high-tech products, who at least in our country are young people. Third, the conclusions are based upon our empirical findings from a survey on users of cell phones. To expand the external validity of the study, it must be reconfirmed in various high-tech products, as products of high-involvement.

As Cooper (2007) said and also the gap in the literature of cognitive dissonance is a proof of, there are still a lot of areas left untouched to discover. Taking the motivational aspect of cognitive dissonance – excluded early in 1970s since it was so subjective (refer to Cooper, 2007 for more details) – and the likely impacts on consumers into account is of high value, and of course of challenge. Interested researchers can work on the impacts of marketing communication mix on cognitive dissonance; in the mean time a closer look at each marketing communication can help develop the literature so far. Researchers can also work on brand and brand personality to find the impacts on cognitive dissonance. In this study, we mainly focused on cognitive dissonance as a phenomenon in post-purchase stage, as it is mainly considered. However, future research can address the impacts of communication and trust on cognitive dissonance and satisfaction whilst decision making at the shop. In this way, researchers can study shoppers' buying behaviour at both the offline shop and online shopping web sites.

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