Antecedents of the client’s trust in low- versus high-consequence decisions

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Abstract
Purpose – The purpose of this study is to address the role of high- and low-consequence exchanges in the relationship between trust and its antecedents (i.e., affective and cognitive elements) and consequences (i.e., positive WOM and search for second opinion intentions) in the context of the provision of medical services.

Design/methodology/approach – We performed a survey with 681 patients from a large hospital. The data were analyzed through a multigroup structural equation approach.

Findings – Findings show that during service encounters affective aspects have greater impact on consumer trust in situations of high-consequence than in low-consequence exchanges, while cognitive aspects have greater impact when consequences are low than when they are high. In addition, the authors found that the more severe the consequences, the greater the impact of trust on positive WOM and search for second opinion intentions.

Originality/value – This study is the first to consider the exchange consequences as an important moderator of the relationship between trust and affect and cognition elements involved in client-service provider encounters. Overall, the findings show higher importance of affective aspects (compared to cognitive aspects) for the formation of trust, in situations in which the individual perceives the consequences of their exchanges as severe.

Keywords Healthcare, Customer loyalty, Service marketing, Trust, Loyalty, Consumer behavior, High-consequence decisions, Patient–physician relationship

Paper type Research paper

Introduction
This research contributes to the services literature by addressing how the type of problem (in terms of consequences) influences the client’s judgment process, particularly the way in which the client builds trust in the service provider and his or her behavioral intentions.

Consumer trust, defined as the “expectations held by the consumer that the service provider is dependable and can be relied on to deliver on its promises” (Sirdeshmukh et al., 2002, p. 17), has been considered to play a key role in exchanges between providers and buyers, particularly in contexts characterized by uncertainty and risk (Arnott, 2007; Mayer et al., 1995). According to Sitkin and Roth (1993), trust-relevant exchanges are characterized by high levels of performance ambiguity, significant consequences and greater interdependence. In his services classification, Lovelock (1983) noted that there is a class of services whose nature requires a high degree of customization and customer contact personnel to exercise judgment concerning the characteristics of the service and how it is delivered to each customer. For services with such characteristics, it is not always clear to the customer or the professional what the outcome will be, and frequently, an important dimension of the professional’s role is diagnosing the nature of the situation and designing a solution. For instance, surgical services consumers literally place their lives in the surgeon’s hands. Professional services, such as law, medicine, accounting and architecture, belong in this category.

In the context of such services, consumer trust can be influenced by affective aspects – such as emotions, care, concern and attention – and cognitive aspects – such as competence, efficiency and effectiveness (Johnson and Grayson, 2000; McAllister, 1995). However, the literature
suggests that the importance of these trust antecedents depends on the context in which they occur; for example, the expected consequences from the service provision, i.e. whether the consequences are high or low (Botti et al., 2009; Kahn and Luce, 2003; Kunreuther et al., 2002). High-consequence exchanges are defined as choices in difficult dilemmas that cause stress and severe emotional reactions (Botti et al., 2009; Kahn and Luce, 2003), whereas low-consequence decisions are defined as situations with a low likelihood of financial or emotional loss and that impose low costs for reversing a decision once it has been made (Kunreuther et al., 2002). In the case of medical services, a common cold may be an example of a problem that results in a low-consequence decision, whereas lung cancer is an example of a disease that involves a high-consequence decision.

For instance, Kahn and Luce (2003) examined the behavior of women who tested positive for a malignant tumor on a mammogram and in a subsequent test learned that the tumor was non-malignant tumor (i.e. a false positive result). Their findings demonstrate that the severity of this situation causes stress and influences the consumer’s decision-making and future behavioral intentions (i.e. lower intentions to undergo mammography in the future).

Botti et al. (2009) also investigated the influence of exchange consequences in consumer decision-making. The results demonstrated that situations in which the individual makes a decision cause more negative feelings than when a decision is made by another (e.g. the physician). The authors demonstrated that high-consequence decisions affect an individual’s ability to cope with problems and weaken the individual’s desire to have autonomy over his or her decisions.

In a context of high consequences, the client’s trust seems to be particularly influenced by affective aspects related to the service provider’s manner, such as its demonstration of caring, empathy, efficiency, communication and respect (Butler, 1991; Johnson and Grayson, 2000; Luhmann, 1979; McCallister, 1995; Thom et al., 1999). However, these affective aspects have rarely been considered in consumer behavior studies (Johnson and Grayson, 2000 and McCallister, 1995 are exceptions), whereas cognitive trust antecedents – such as competence and reputation – have been widely studied in the marketing literature (Johnson and Grayson, 2000; Lewicki and Bunker, 1994; Shapiro et al., 1992).

As for the antecedents, the relationship between trust and future behavioral intentions (i.e. word of mouth [WOM] and the search for a second opinion) also seems to be affected by the type of exchange – high or low consequences. Sirdeshmukh et al. (2002, p. 20) argue that the relationship between trust and loyalty intentions (i.e. positive WOM and repurchase) is supported by reciprocity arguments. When the client feels the service provider can be relied on, the client perceives less risk and most likely intends to continue the relationship and to characterize the provider positively to friends. This statement will be valid particularly in a high-consequence situation in which the client engagement in the client-provider relationship is higher than in a low-consequence situation. Complementarily, in high-consequence decisions, clients feel less safe and more vulnerable (Hall et al., 2002) and are probably more likely to seek a second opinion regardless of their trust in the professional.

Therefore, this study proposes that in high-consequence exchanges, the impact of trust will be larger with respect to positive WOM and smaller in the search for a second opinion intention than in low-consequence exchanges. Based on the literature, this paper aims to answer the following question:

What is the role of high- and low-consequence exchanges in the relationship between trust and its antecedents (i.e. affective and cognitive elements) and consequences (i.e. positive WOM and the intention to seek a second opinion)?

As a research context, we chose medical services because such services characterized by ambiguity (i.e. consumer evaluations of a medical treatment may be highly ambiguous), relevant consequences (i.e. a medical treatment could have significant consequences for the patient) and interdependence (i.e. the patient participates in the process of exchange performance, e.g. when the patient describes his or her symptoms to the doctor). Moreover, there is a large and relevant literature in the health care area that addresses patient trust, the emotional and cognitive aspects related to such trust and the effect of high- and low-consequence exchanges.

The remainder of our paper is organized as follows. We start by presenting our conceptual framework, in which we define the key constructs, develop our hypotheses and present our theoretical model. Next, we describe the research method and discuss the results of our empirical tests. We conclude by discussing the implications of our research, its limitations and possible topics for future studies.

Literature review

In this section, we establish the theoretical basis of our study by examining the literature on consequence exchanges (low and high), interpersonal trust and its cognitive and affective antecedents and trust consequences (positive WOM and the intention to search for a second opinion).

High- versus low-consequence exchanges

In the past, people had a “family doctor” who knew the patients personally and helped guide their health and medical decisions. Today’s consumers have become more responsible for decisions related to medical treatment, insurance coverage and doctors and hospitals, which has important consequences for their health (Kahn and Baron, 1995).

Several studies suggest that the severity of the possible outcomes for the individual will influence the decision-making process because complex exchanges cause stress and affect the individual’s decision-making ability (Botti et al., 2009; Mechanic and Meyer, 2000; Ostrov and Iacobucci, 1995). In communication studies, Chaiken (1980) found evidence that individuals who face high-consequence decisions spent more time reading the message in a persuasive advertisement and thinking about the arguments than individuals who face low-consequence decisions.

Petty and Cacioppo (1979) reported that the evaluation process and consumer judgment varies depending on the personal involvement and relevance of the situation. Apsler and Sears (1968, p. 162) claim that “people are likely to become personally involved with an issue when they expect it to have significant consequences for their own lives”.

Evidence in the literature indicates that the importance of certain attributes varies depending on the type of exchange.
For example, Ostrom and Iacobucci (1995) found evidence that price is considered to be an important attribute for judgment in exchanges with fewer critical consequences, whereas quality was more important for exchanges with more critical consequences, which suggests that the magnitude of exchange consequences influences consumer judgments. In addition, White (2005) found that consumers rely more on recommendations from experts in decisions with low-emotional difficulty. However, when decisions are emotionally difficult, consumers are more likely to heed the advice of more benevolent providers than that of experts. Note that expert providers are those with greater technical knowledge, whereas benevolent providers have greater relationship abilities (i.e. their affective skills are more developed).

Based on the literature, the present study suggests that the relationships between trust and its cognitive and affective antecedents as well as trust and its consequences – positive WOM and the intention to search for a second opinion – are moderated by the level of consequence of the decision faced by a consumer.

**Trust in medical services**

In organizational and consumer behavior studies, trust has been conceptualized as a propensity to depend on the other (Mayer et al., 1995; Moorman et al., 1992), belief in the fulfillment of promises (Barber, 1983; Hagen and Choe, 1998; Rotter, 1967, 1971; Sirdeshmukh et al., 2002) and willingness to accept a partner because of the risks involved (Lewis and Weigert, 1985; Mishra, 1996; Zand, 1972).

In medical services, trust is regarded as a vital element of the physician–patient relationship (Maynard and Bloor, 2003). Dugan et al. (2005) define trust as an acceptance of vulnerability by the patient and a belief that the service provider will act in the patient’s interest (Hull et al., 2001; 2002). Maynard and Bloor (2003) reported that although various definitions of trust have been proposed, a central element is the acceptance of vulnerability and the belief that the physician will do his or her best for the patient. The authors also report that the physician will be considered the patient’s “guardian” and should ensure that the best treatment will be provided.

Coulter (2002) states that the sick must establish relationships with doctors who offer empathy and support, are sincere about the patient’s condition and treatment options, are willing to listen to the patient’s concerns and preferences and willing to share in the decision-making with the patient. Hupcey and Miller (2006) and Hall et al. (2002) emphasize the importance of particular factors – such as care, concern, attention and interest – when patients are building trust with doctors and nurses. Corroborating these authors, Rempel et al. (1985) report that trust is a critical element in interpersonal relationships that makes individuals feel emotionally safe and enables them to go beyond physical assurances and establish the emotional confidence that the partner will care for and assume responsibility for his or her well-being.

Next, this study examines interpersonal trust and its affective and cognitive antecedents, which finds conceptual support in the field of psychology.

**Interpersonal trust and its antecedents**

Arnott (2007) states that any successful relationship, from friendship and marriage to partnerships and business transactions, depends to a greater or lesser extent on the level of trust between the parties. Interpersonal trust is defined as an expectancy of a person or group that the word of another person or group can be relied on (Rotter, 1967). According to Johnson-George and Swap (1982, p. 1306), “interpersonal trust is a basic feature of all social institutions that demand cooperation and interdependence”. The authors note that an interpersonal relationship has both a history and a future. For example, in the relationship between two friends, when one trusts that the other will keep a secret, that belief is based both on the friend’s personality and on the history of previous confidences (i.e. whether or not the person kept secrets in the past). Therefore, in the relationship between individuals, trust depends on who the other party is.

In the organizational context, McAllister (1995, p. 25) defines interpersonal trust as “the extent to which a person is confident in and willing to act on the basis of, the words, actions and decisions of another”. The author states that interpersonal trust has two main forms: affect- and cognition-based trust. Johnson and Grayson (2005) state that cognitive trust is based on accumulated knowledge and that affective trust is based on feelings generated by the level of attention, care and concern demonstrated by the partner.

The cognitive antecedents of trust have been widely investigated in consumer behavior studies (McKnight et al., 2002; Sirdeshmukh et al., 2002) and are based on competence, responsibility, integrity, dependence and benevolence (Butler, 1991; Johnson and Grayson, 2000; McAllister, 1995). That is, the cognitive antecedents of trust possess a more rational content (Castaldo, 2007). The cognitive basis of trust is also related to the knowledge accumulated from observing the partner’s behavior, which is linked to reputation and predictability (Johnson and Grayson, 2005). In fact, Casielles et al. (2005) found that the reputation of retail service providers has a positive effect on client trust. Sekhon et al. (2013, p. 77) state that:

[... ] cognitive trust is idealized as the customers’ (trustor’s) willingness to depend on the service provider’s competence and reliability on the basis of their knowledge about the service provided by the trustee.

For the purpose of our study and congruent with Sekhon et al. (2013) and Sirdeshmukh et al. (2002), cognitive trust is defined here as the consumer’s belief that the service provider is dependable, competent and responsible and can be relied on to deliver on its promises based on the technical ability demonstrated by the service provider.

In addition, emotional ties between individuals may also provide a basis for the development of trust (McAllister, 1995). Semmes (1991) found that the demonstration of caring, such as emotional commitment and empathy, is a key element for building trust. Rempel et al. (1985) posit that interpersonal relationships trust are based on a faith in another person, which enables a person to feel emotional security.

According to McAllister (1995), affect-based trust would be present in all situations in which there is trust and that such a trust is more intense in interpersonal relationships. Affect-based trust would be based on emotional relationships.
between individuals (Johnson and Grayson, 2005), such as being able to freely share feelings, ideas and hope and being afraid of losing the relationship and caring for one another. Johnson and Grayson (2005) observe that a patient may consider the courtesy of his or her surgeon to be a sign of commitment or even expertise. The authors’ state that affect-based trust is “characterized by feelings of security and perceived strength of the relationship” (p. 501). Based on Johnson and Grayson (2005), Sekhon et al. (2013, p. 78) conceptualized affective trust as “the confidence of future outcomes based on feelings of care and concern demonstrated by a trustee towards a trustee”. Hall et al. (2001, 2002) and Hupcey and Muller (2006) state that care, worry, attention and interest constitute an important basis on which to build trust in the doctor–patient and nurse–patient relationships. In this study, consistent with Sekhon et al. (2013) and Sirdeshmukh et al. (2002), affective trust is defined as the consumer’s belief that the service provider can be relied on to deliver on its promises based on their concern, empathy, understanding and care in relation to the consumer.

In line with this idea of trust being based on cognitive and affective aspects, Crutchfield and Morgan (2010) found that service performance (i.e. competent, secure and courteous) and social content (i.e. friendly, personal in conversation and good company) are antecedents of consumer trust. In a survey of the customers of a retail bank across three countries (UK, Hong Kong and India), Sekhon et al. (2013) found that cognitive and affective trust has a significant impact on overall trust. Massey and Dawes (2007) tested how affective and cognitive trust mediates the effect of personal characteristics on conflict and effectiveness in relationships between marketing managers and sales managers. They found that affective trust had the strongest effect on relationship effectiveness and both (cognitive and affect trust) had a significant impact on reducing negative conflicts in the relationships.

The literature suggests that the importance of attributes considered by consumers in making a decision will vary depending on the exchange type – whether high or low – (Diamond, 1988; Ostrom and Iacobucci, 1995; Petty and Cacioppo, 1979) and that trust has affective (e.g. care and emotion) and cognitive (e.g. competence and reputation) antecedents (Johnson and Grayson, 2005; McAllister, 1995). The impact that affectation demonstrated by the doctor has on patient trust is expected to be higher in high-consequence exchanges than low-consequence exchanges because in the case of a serious disease the patient is usually sensitive and will require not only professional support (e.g. physician competence) but also emotional support (e.g. care, concern and compassion) from the physician (Mechanic and Meyer, 2000).

Similarly, cognitive antecedents are expected to have a greater impact on trust in high- than in low-consequence exchanges because exchanges that have serious consequences for the life of consumers increase the relevance of cognitive aspects, such as competence, reputation and efficiency (Johnson and Grayson, 2005; Li et al., 2009; McAllister, 1995). Li et al. (2009) found that in services with severe consequences (or high perceived risk), such as medical services, clients demand higher knowledge and skills (cognitive aspects) from the doctor. Thus, the first two hypotheses of this study are as follows:

**H1.** The positive impact of affection exhibited by the service provider in consumer trust will be moderated by the type of exchange consequence such that this impact will be greater when the consequence is high than when it is low.

**H2.** The positive impact of cognition exhibited by the service provider in consumer trust will be moderated by the type of exchange consequence such that this impact will be greater when the consequence is high than when it is low.

**Positive WOM and the search for a second opinion**

Several authors demonstrate that consumer trust in a service provider influences their intention to say good things about the provider and recommend the provider’s products and services to friends and family (Ranaweera and Prabhu, 2003; Sirdeshmukh et al., 2002; Sun and Lin, 2010). Therefore, the higher that the trust is, the greater the likelihood of the consumer engaging in positive WOM (Crutchfield and Morgan, 2010; Matos and Rossi, 2008). In the brand trust context, Delgado-Ballester and Munuera-Alemán (2001) argue that in exchanges in which the consumer has a greater involvement trust will have a stronger impact on the consumer’s commitment to a brand. The explanation for this effect is that in situations of high involvement, the relevance of trust as a factor that guides customer intentions is higher (Delgado-Ballester and Munuera-Alemán, 2001, p. 1244). Therefore, in high-consequence exchanges in which the client has a high degree of involvement with the situation, trust influences the consumer’s engagement with the service provider, which results in to stronger intentions to positively characterize the provider to others. Sirdeshmukh et al. (2002) suggest that the risk in medical service exchanges may be a moderator in the relationship between trust and positive WOM (as a measure of loyalty intentions) (Zeithaml et al., 1996).

Therefore, based on this evidence, we propose that the impact of trust on WOM intentions will be stronger in high- than in low-consequence exchanges because the higher the uncertainty and complexity of the exchange (Kunreuther et al., 2002), the more important the role of trust becomes in reducing negative consumer perceptions. Reducing negative perceptions makes the client feel safe enough to engage in a relationship with the service provider and to speak well of him or her to family and friends (Johnson and Grayson, 2005; Rempel et al., 1985). Thus, the following hypothesis is postulated:

**H3.** The positive impact of consumer trust on positive WOM intentions will be moderated by the type of exchange consequence such that this impact will be greater when the consequence is high than when it is low.

Regarding the search for a second opinion, Balkrishnan et al. (2003) found evidence that patients who trust their doctors are less likely to seek a second opinion because they feel they can completely depend on their doctors and do not perceive a
reason to search for others. According to Berry (1995), consumers tend to remain in long-lasting relationships because of perceptions of lower uncertainty and vulnerability, thus reducing the need to search for another physician.

In contrast, Apsler and Sears (1968) report that when individuals perceive negative consequences, they increase their resistance in an attempt to block unwanted influences. Therefore, in high-consequence exchanges, clients are likely to seek a second opinion in an effort to resist or block an undesired event or to ensure that they are fully informed regarding a diagnosis and treatment. Thus, we expect that clients will seek the opinion of a second professional more often in high-consequence exchanges regardless of their level of trust in the first professional. However, when clients perceive the consequence level to be low, the relationship between trust and the search for a second opinion is stronger. That is, greater trust will reduce the desire search for a second opinion. This logic provides the basis for the following hypothesis:

**H4.** The impact of consumer trust on the intention to seek a second opinion will be moderated by the level of an exchange’s consequence such that the impact will be lower when the consequence is high than when it is low.

**Figure 1** summarizes the hypotheses proposed in this study.

**Method**

This research was divided into two phases with real patients. The first phase was a qualitative, exploratory study with in-depth interviews, and the second phase was a quantitative, descriptive study using a cross-sectional survey. In both phases, we focused on patients who used private health-care services because the patients who use public health-care services cannot choose their physicians or hospitals.

In the study’s exploratory phase, we conducted 10 in-depth interviews with patients aged 25 to 70 years who were suffering from diseases with high or low consequences. The interviews were scheduled, recorded and transcribed. They were held at the respondent’s residence or workplace or by phone in the months of May, June and July 2012 and lasted on average 30 minutes. Based on the interviews, the key attributes related to patient trust were friendship, sincerity, eye contact, reputation, recommendation, commitment, dependability and expertise. These findings were used for adapting or complementing the scales of affection, cognition and the intention to seek a second opinion, as discussed below.

After receiving Ethics Research Committee approval, the survey was administered by four professionals at a large hospital with three specialized care units and over 370 admission beds.

A pre-test with 68 patients was performed at the hospital by four professional interviewers on November 5 and 6, 2012. After several adjustments, 693 questionnaires were administered by the same interviewers from November 12 through 23, 2012. To ensure a diverse sample (i.e. medical problems with different levels of severity and consequence), interviewers selected patients from two units of the hospital. Patients were invited to participate in the study and those who agreed signed and received a copy of the informed consent form. The patients answered questions relating to cognition, affection, trust, problem severity, the search for a second opinion and positive WOM intentions. Upon completion of the survey, the respondent received a cereal bar as a reward for participation.

After collection, the data were initially processed using the SPSS® software, version 17.0. Missing values were replaced by the maximum expectancy for each variable. Outliers, which were identified based on the standard score, were removed from the analysis (12 cases were excluded). Data normality was confirmed by calculations of skewness and kurtosis. Multicollinearity was verified by calculating the bivariate correlation and using the variance inflation factor whereby no cases were found. Finally, data homoscedasticity was verified by Levene’s test (Hair et al., 2005). After the test, the database containing 681 patients was considered appropriate for structural equation modeling.

We test for the common method bias (Podsakoff et al., 2003) using a chi-square difference test between one factor and the multiple factor solution. In this test, the one factor solution ($\chi^2 = 9,675.29; df = 170$) presents a higher chi-square than a multiple factor solution ($\chi^2 = 697.61; df = 174$). The chi-square difference ($\Delta \chi^2 = 8,977.68; df = 4$) indicates that the one factor solution is significantly worse than the multiple factor solution, which indicates that there is no bias of the method used to collect the data.

**Measures**

The items that measured consequence type were adapted from Moss-Morris et al. (2002) and asked how much the patient agreed with the following statements: “My disease is serious”, “My disease has serious consequences for my life” and “My disease causes difficulties for people who are close to me”.

We based the affection and cognition scales on Thom (2001) and the in-depth interviews that were conducted during the exploratory phase of our research. Regarding affection, the patients were asked how much they agree with the following statements: “The doctor lets me tell my story; he or she listens to me carefully, asks relevant questions, and never interrupts me”, “The doctor tells me everything, being truthful and honest”, “The doctor comforts me and reassures me, making me feel cared for” and “The doctor is someone I can rely on”.

The cognition scale requested the participant to evaluate the following statements: “The doctor demonstrates competence when diagnosing and treating my problems”, “The doctor is one of the best in his/her area”, “The doctor has good experience in his/her area of expertise” and “The doctor
demonstrates up-to-date knowledge in his/her area of expertise”.

The trust scale was adapted from Dagger et al. (2009) and requested the patient to evaluate the following statements: “This doctor can be trusted”, “This doctor can be counted on to do what is right”, “This doctor has integrity” and “This doctor is trustworthy”.

The scale of the intention to seek a second opinion included the following items, which were based on our in-depth interviews and Balkrishnan et al. (2003): “I intend to seek a second opinion from another doctor”, “I need to hear the opinion of another expert” and “I plan to visit another doctor to investigate this disease”.

The scale of positive WOM intention was adapted from Zeithaml et al. (1996) and contained the following items: “how likely would you be to [. . . ]”, “say positive things about this doctor to other people”, “recommend this doctor to someone who ask your advice” and “encourage your friends and relatives to visit this doctor if they had similar problems”. All of the scales were measured using a seven-point Likert scale.

Results
Sample profile
The average age of the respondents was 43 years (\( \sigma = 14.62 \) years). More than half (57.7 per cent) were female. Regarding education, nearly half (48 per cent) of the respondents had completed or were currently enrolled in an undergraduate program and 52 per cent were married. Regarding monthly household income, 54.3 per cent of the respondents reported a range of approximately USD1,500-2,500. As for medical care, 27 per cent of the respondents last visited the doctor approximately one month prior to the survey, whereas 26.5 per cent reported their last visit had occurred approximately three weeks previously. It is noteworthy that all of the respondents reported at least one medical visit during the previous month. Regarding to the doctors mentioned, the respondents had been their patients on average for 1 year and 7 months (\( \sigma = 16.60 \) months). These doctors were primarily male (73.30 per cent) and had an approximate age between 40 and 50 years (46.4 per cent). The majority of participants reported visiting their physician on a monthly (32.70 per cent) or semi-annual basis (35.10 per cent). Most participants pay their doctor using health insurance (97.10 per cent), and the average time that the patient had been a member of his or her health insurance plan was 8.52 months (\( \sigma = 5.75 \) months).

Measurement model
To analyze our measurement model, reliability and validity were measured using a confirmatory factor analysis. The goodness-of-fit indexes found for the model (\( \chi^2 = 697.61, \text{df} = 174, p = 0.000, \text{GFI} = 0.91, \text{NNFI} = 0.92, \text{CFI} = 0.94, \text{RMSEA} = 0.06 \)) indicated appropriate adjustment, with the exception of the chi-square significance, which can be affected by the sample size and by the number of parameters estimated by the model (Hair et al., 2005).

All constructs displayed satisfactory levels of composed reliability (>0.70), with the lowest value found for the affection scale (0.75) and the highest for the search for a second opinion scale (0.95). Regarding average variances extracted, the WOM, trust, second opinion, affection and cognition scales exhibited levels above 0.50, as indicated by the literature (Garver and Mentzer, 1999). However, according to the analysis of reliability, convergent and discriminant validity (presented below), such measures can be accepted in this study. Further details on the scales are presented in Table I.

The convergent validity of constructs was verified by the significance of the factor loadings (\( t \) values > 1.96) (Bagozzi et al., 1991). All of factor loadings are statistically significant: the smallest \( t \) value found was for the first item of the affection scale (10.95) and the highest for the second item of the consequence scale (43.74). To verify the discriminant validity, we compared the extracted and the shared variance (square of the correlation) between constructs (Fornell and Larcker, 1981). All of the constructs have discriminant validity because the highest shared variance found was 0.39, which corresponds to the square of the correlation between the cognition and second opinion measures, not exceeding the variances extracted from both constructs, which were 0.86 and 0.66, respectively. Table II presents the variance extracted from each construct diagonally, whereas the values of the correlations between constructs appear below these values.

We also test for the discriminant validity through a chi-square difference test using a comparison between constrained and unconstrained models of pairs of constructs, as suggested by Anderson and Gerbing (1988). In this test, we found that the pair “consequence” and “second opinion” presented the lowest chi-square difference value between constrained and unconstrained models (\( \Delta \chi^2 = 43.6 \)), which is higher than the critical value of 3.94, thus indicating that the two constructs are different. The highest chi-square difference was found for the pair “cognition” and “second opinion” (\( \Delta \chi^2 = 282.72 \)).

Test of hypotheses
To test the study hypotheses, we applied structural equation modeling using maximum likelihood estimation with the Lisrel software, version 8.51. The multi-group analysis technique was used to test the hypotheses of moderation. Therefore, the database was divided based on the median found in the disease consequence scale, which was 3.00 (on a 7-point scale). Based on this division, the group of low-consequence cases was represented by 381 patients, while the group of high-consequence cases was represented by 301 patients. Table III shows the results of this analysis.

Overall, the adjustment of the structural model was adequate because the goodness-of-fit indexes were satisfactory based on the limits proposed by Hair et al. (2005). To analyze the moderation hypotheses, the chi-square differences were calculated (last column in Table III). Differences greater than 3.94, with one degree of freedom, indicate that the paths are different between models of high and low consequences. The relationship between affection and trust was significant and positive, which confirms that the affective aspects perceived in the physician are antecedent to the patient’s trust. The effect of affection on trust was positive and significant both in low- and high-consequence conditions. However, the difference in the chi-square test (\( \Delta \chi^2 = 13.24 \); between unconstrained and constrained models) indicates that
consequence severity moderates the relationship between affection and trust. This moderation demonstrates that the impact of affection on trust is higher when individuals perceive that the consequence of their disease is high (coefficient = 0.70) than when they perceive that the consequence is low (coefficient = 0.44). This moderation confirms H1.

Likewise, the model results also reveal that the cognitive aspects demonstrated by the medical services provider significantly precede consumer trust. However, the effects of cognitive aspects on trust are different according to the level of the disease consequence ($\chi^2 = 84.68$, between unconstrained and constrained models). Specifically, when the individual perceives that consequences are low, there is a greater effect of cognitive aspects on trust (coefficient = 0.09) than when the consequences are perceived as high (coefficient = 0.05). These results are contrary to H2. Therefore, this hypothesis is rejected.

To compare the difference of the effects of affective and cognitive aspects on trust, we used the $Z$ score presented by Clogg et al. (1995). The value of the $Z$ score is obtained by the following formula: $Z = (\text{Coefficient1} - \text{Coefficient2})/\sqrt{[\text{error Coefficient1}^2 + \text{error Coefficient2}^2]}$. A $Z$ value greater than or equal to 3.80 indicates a significant difference ($p < 0.05$) between the coefficients analyzed. Based on the low-consequence model, there is significant difference ($Z = 5.21$) between the effects of affective (coefficient = 0.44) and cognitive aspects (coefficient = 0.09) on trust, which reveals that affection has a greater effect than cognition. Likewise, considering the analysis of the high-consequence model, the affective aspects (coefficient = 0.70) have a significantly

Table I  Confirmatory factor analysis

<table>
<thead>
<tr>
<th>Constructs/Indicators</th>
<th>Average variance extracted</th>
<th>Composed reliability</th>
<th>Factor loadings</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>0.51</td>
<td>0.80</td>
<td></td>
<td>6.54 (0.48)</td>
</tr>
<tr>
<td>This doctor can be trusted</td>
<td></td>
<td></td>
<td>0.69</td>
<td></td>
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<tr>
<td>This doctor can be counted on to do what is right</td>
<td></td>
<td></td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>This doctor has integrity</td>
<td></td>
<td></td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>This doctor is trustworthy</td>
<td></td>
<td></td>
<td>0.74</td>
<td></td>
</tr>
<tr>
<td>Positive WOM</td>
<td>0.61</td>
<td>0.82</td>
<td></td>
<td>6.50 (0.52)</td>
</tr>
<tr>
<td>Say positive things about this doctor to other people</td>
<td></td>
<td></td>
<td>0.77</td>
<td></td>
</tr>
<tr>
<td>Recommend this doctor to someone who ask your advice</td>
<td></td>
<td></td>
<td>0.86</td>
<td></td>
</tr>
<tr>
<td>Encourage your friends and relatives to visit this doctor if they had similar problems</td>
<td></td>
<td></td>
<td>0.70</td>
<td></td>
</tr>
<tr>
<td>Second opinion</td>
<td>0.86</td>
<td>0.95</td>
<td></td>
<td>1.59 (1.25)</td>
</tr>
<tr>
<td>I intend to seek a second opinion from another doctor</td>
<td></td>
<td></td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>I need to hear the opinion of another expert</td>
<td></td>
<td></td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>I plan to visit another doctor to investigate this disease</td>
<td></td>
<td></td>
<td>0.94</td>
<td></td>
</tr>
<tr>
<td>Affection</td>
<td>0.51</td>
<td>0.75</td>
<td></td>
<td>6.40 (0.57)</td>
</tr>
<tr>
<td>The doctor tells me everything, being truthful and honest</td>
<td></td>
<td></td>
<td>0.70</td>
<td></td>
</tr>
<tr>
<td>The doctor comforts me and reassures me, making me feel cared</td>
<td></td>
<td></td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>The doctor is someone with whom I can rely upon</td>
<td></td>
<td></td>
<td>0.67</td>
<td></td>
</tr>
<tr>
<td>Cognition</td>
<td>0.66</td>
<td>0.88</td>
<td></td>
<td>6.30 (0.88)</td>
</tr>
<tr>
<td>The doctor demonstrates competence when diagnosing and treating my problems</td>
<td></td>
<td></td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>The doctor is one of the best in his area</td>
<td></td>
<td></td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>The doctor has good experience in his area of expertise</td>
<td></td>
<td></td>
<td>0.86</td>
<td></td>
</tr>
<tr>
<td>The doctor demonstrates updated knowledge in his area of expertise</td>
<td></td>
<td></td>
<td>0.58</td>
<td></td>
</tr>
<tr>
<td>Exchange consequences</td>
<td>0.83</td>
<td>0.93</td>
<td></td>
<td>3.16 (2.06)</td>
</tr>
<tr>
<td>My disease is serious</td>
<td></td>
<td></td>
<td></td>
<td>0.94</td>
</tr>
<tr>
<td>My disease has serious consequences for my life</td>
<td></td>
<td></td>
<td></td>
<td>0.95</td>
</tr>
<tr>
<td>My disease causes difficulties for people who are close to me</td>
<td></td>
<td></td>
<td></td>
<td>0.83</td>
</tr>
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</table>

Table II  Correlations

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Consequence</th>
<th>Trust</th>
<th>WOM</th>
<th>Second opinion</th>
<th>Affection</th>
<th>Cognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consequence</td>
<td>0.83</td>
<td>0.23</td>
<td>0.04</td>
<td>-0.13</td>
<td>-0.12</td>
<td>0.86</td>
</tr>
<tr>
<td>Trust</td>
<td>0.23</td>
<td>0.51</td>
<td>0.41</td>
<td>0.61</td>
<td>0.17</td>
<td>0.61</td>
</tr>
<tr>
<td>WOM</td>
<td>0.04</td>
<td>-0.13</td>
<td>0.18</td>
<td>0.21</td>
<td>0.17</td>
<td>0.21</td>
</tr>
<tr>
<td>Second opinion</td>
<td>0.08</td>
<td>-0.13</td>
<td>-0.12</td>
<td>0.86</td>
<td>-0.27</td>
<td>0.63</td>
</tr>
<tr>
<td>Affection</td>
<td>0.17</td>
<td>0.61</td>
<td>0.31</td>
<td>-0.27</td>
<td>0.83</td>
<td>0.27</td>
</tr>
<tr>
<td>Cognition</td>
<td>0.04</td>
<td>0.18</td>
<td>0.21</td>
<td>-0.63</td>
<td>0.70</td>
<td>0.66</td>
</tr>
</tbody>
</table>
greater effect on trust ($Z = 6.37$) than the cognitive aspects (coefficient = 0.05), which indicates a higher importance of affective aspects for the formation of trust in both situations, i.e. when the individual perceives the consequences of his or her disease as severe or as mild.

Regarding antecedents, the relationships of trust with its consequences were also examined. Here, two structural paths are defined according to the theoretical model. First, trust had a positive effect on WOM intentions. Therefore, in both models (high or low consequence), the more trust that patients have in the medical service provider, the greater their positive WOM intentions (coefficient = 0.37; coefficient = 0.50, respectively). However, the chi-square variation ($\Delta \chi^2 = 25.48$; between unconstrained and constrained models) indicates that the perceived exchange consequences moderate the relationship between trust and WOM intentions and for respondents with low-consequence exchanges, the effect of trust on WOM intentions is lower than for respondents with high-consequence exchanges. This outcome confirms the relationships proposed by $H3$.

In addition, trust was related to the intention to seek a second opinion. Thus, trust had a negative impact on the intention to search for a second opinion, which was moderated by the perceived consequence of the disease ($\Delta \chi^2 = 68.82$, between unconstrained and constrained models). For individuals with high severity, the relationship between trust and the intention to seek a second opinion is stronger (coefficient = $-0.88$) than for individuals with low severity (coefficient = $-0.52$). Thus, it is impossible to confirm the assumptions of $H4$, which proposed that this effect would be lower for individuals with high perceived severity.

Table IV shows a summary of the test of the four hypotheses.

**Post hoc analysis**

To better understand our findings, we examined the moderator role of the length of the relationship between patient and doctor in the effects of cognition and affection. Through an interaction term (the length of the relationship between patient and doctor $\times$ cognition), we verified that the length of the relationship moderated the relationship between cognition and trust (coefficient = $-0.01$, $t = -2.41$). When the length of the relationship is shorter (one standard deviation below the mean), there is a positive effect of cognition on trust (coefficient = 0.17; $t = 4.45$). However, when the length of the relationship is longer (one standard deviation above the mean), no effect of cognition on trust was found (coefficient = 0.02; $t = 0.56$). We performed the same test for affection. Thus, through an interaction term (the length of the relationship between patient and doctor $\times$ affection), we found that the length of the relationship did not moderate the relationship between affection and trust (coefficient = $-0.00$, $t = -1.09$). That is, affection has a significant effect on trust in both short- and long-term relationships.

**Final considerations, limitations and future studies**

Whereas trust has been widely examined in the literature (Geyskens et al., 1998; Lewicki and Bunker, 1994; Mayer et al., 1995; McAllister, 1995), the role of exchange consequences in services has received little attention (for exceptions, see Botti et al., 2009 and Kahn and Lu, 2003). This study aimed to examine the moderating role of exchange consequences in the relationship between trust and its cognitive and affective antecedents and the relationship between trust and its consequences: positive WOM and the intention to seek a second opinion. According to our results, exchange consequences are important moderators in the relationship between trust and its affection and cognition antecedents.

Based on the results, affection is more important in high-consequence exchanges than low-consequence exchanges. High-consequence exchanges are characterized by complex situations that force the consumer to make an extra cognitive effort to evaluate, increase the consumer's fear of choosing a wrong alternative and have a significant likelihood of unwanted results (Botti et al., 2009). Thus, affective aspects, such as care, interest and concern, would be more important in this type of exchange. This result corroborates research by Terres and Santos (2013) that demonstrates that in a context of severe consequences cognitive aspects were not sufficient to explain consumer trust and that affective aspects were relevant.
in this regard. One explanation is that in high-consequence exchanges, the consumer may not possess sufficient skill to comprehensively evaluate the cognitive aspects related to the provider, and thus emotional ties are relied on to build trust.

The impact of cognition aspects on trust had an effect opposite to that hypothesized. We expected that the effect of cognition on trust was greater in high-consequence exchanges than low-consequence exchanges. However, this effect was higher in low-consequence exchanges. One explanation for this result is that in our sample many respondents reported visiting their doctors often (i.e. 32.70 per cent monthly and 35.10 per cent semi-annually) and for an average of 17 months. That is, the respondents seem to have ongoing relationships with the provider, a circumstance that perhaps helps mitigate the importance of cognition in the client–provider exchange. In fact, Lewicki and Bunker (1994) suggest that the development of trust occurs in three stages starting with a more rational form of trust ("calculated-based trust") before becoming a less calculative form of trust ("knowledge-based trust") and finally developing into "identification-based trust", where values converge and trust becomes inherent to the relationship. In this regard, future studies may test our model in situations in which the client is unfamiliar with the professional evaluated (i.e. situations in which trust is built from the initial stage).

Although not the focus of this study, our results demonstrate that affective antecedents have a significantly greater effect on trust in high- and low-consequence exchanges when compared with cognitive antecedents. These findings corroborate results obtained by White (2005, p. 142), who reported that in more serious decisions, individuals were more inclined to believe in service providers with higher relational skills than those with highly rated technical knowledge. However, the research of Terres and Santos (2013) found equal impacts on trust for two antecedents: affect and cognition. This difference may be explained by the fact that these authors assessed trust in the initial stage through an experiment, which may have increased the impact of cognitive aspects on trust, as suggested by Lewicki and Bunker (1994) and our posthoc analysis.

The impact of trust on WOM intentions differed between groups of patients facing high- and low-consequence diseases. Specifically, patients who experience more severe diseases display a stronger relationship between trust and WOM intentions as compared with individuals who perceive low consequences from their diseases. These results support the assumption that clients in high-consequence exchanges may develop a high level of engagement with the service provider, which results in a high effect of trust on positive WOM. Future studies could test this mediator role of engagement in the relationship between trust and WOM. These findings are particularly important for management professionals who focus on high-consequence situations (e.g. plastic surgery) and are interested in retaining loyal customers.

Finally, regarding the impact of trust on the intention to seek a second opinion, patients with high consequences exhibited a stronger negative relationship between trust and this intention than individuals with low consequences. Thus, in situations of high consequences, higher levels of trust between doctor and patient result in a lesser intention to seek a second opinion. This outcome is contrary to our hypothesis, which proposed that the effects of trust on seeking a second opinion would be mitigated in a context of higher consequences because the patient would search for other experts to learn more about the disease even when the patient has strong trust in his or her doctor. One explanation for this result may be that the respondents reported having close relationships with their doctors. Thus, they could have already been under treatment and at that point less inclined to seek a second opinion, even in situations with high consequences. Additionally, in more serious cases, the patient may be more involved in the doctor-patient relationship, where trust is more important, which could cause the patient to perceive no reason to seek another opinion. Spake and Bishop (2009) note the importance of the patient–doctor relationship in building loyalty and found that the psychological comfort experienced by a patient as a result of his or her relationship with the physician is the most important factor in predicting patient retention. In situations in which the patient feels close to the doctor, the patient’s comfort level becomes an important exit barrier.

This study has several limitations. First, we used a survey of hospital in-patients. Future research could extend this sample to other health-care settings, including public health-care services. Another point to be investigated is the role of hospital facilities and nursing care teams as antecedents of the patient–doctor trust and the effect of trust on the patient’s intention to continue treatment (Hall et al., 2001; Safran et al., 1998; Thom et al., 1999).

Although we believe that our findings would remain valid for other service settings with similar characteristics (i.e. judgment-based, a high level of customization, uncertainty and contact between provider and client), another limitation is that this study focused exclusively on medical services exchanges. Future studies can replicate this study in other contexts to verify the moderating effect of consequences in

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**Table IV Test of hypotheses results**

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1.</strong> The positive impact of affection exhibited by the service provider in consumer trust will be moderated by the type of exchange consequence, such that this impact will be greater when the consequence is high than when it is low.</td>
<td>Corroborated</td>
</tr>
<tr>
<td><strong>H2.</strong> The positive impact of cognition exhibited by the service provider in consumer trust will be moderated by the type of exchange consequence, such that this impact will be greater when the consequence is high than when it is low.</td>
<td>Not corroborated</td>
</tr>
<tr>
<td><strong>H3.</strong> The positive impact of consumer trust on positive WOM intentions will be moderated by the type of exchange consequence, such that this impact will be greater when the consequence is high than when it is low.</td>
<td>Corroborated</td>
</tr>
<tr>
<td><strong>H4.</strong> The impact of consumer trust on the intention to seek a second opinion will be moderated by the level of an exchange’s consequence, such that the impact will be lower when the consequence is high than when it is low.</td>
<td>Not corroborated</td>
</tr>
</tbody>
</table>

---

**References**


White (2005, p. 142).

Terres and Santos (2013).

Hall et al., 2001.

Safran et al., 1998.

Thom et al., 1999.

Spake and Bishop (2009).

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other types of services (e.g. law, architecture, accounting and beauty services) that also involve low- and high-consequence decisions.

From a managerial viewpoint, our results help and service professionals to better understand trust formation and its consequences, which depend on the perception of the client regarding the service outcomes. Our findings reinforce the importance of providers being personal toward their clients. Carefully listening to the clients, maintaining eye contact, shaking hands and being friendly are highly recommended behaviors, particularly in high-consequence situations. Our study also emphasizes the importance of the perceived threat level of the procedure or outcome by the client for the relationship between trust and intentions to recommend professional services to friends and family. That is, when a client perceives high levels of risk and negative consequences for his or her life, the cognitive aspects of the professional are less important than the affective aspects in generating trust, which consequently influences WOM and the intention to seek a second opinion. By nourishing their clients’ trust, service providers are more likely to build and retain long-term relationships with their clients.

References


Barber, B. (1983), The Logic and Limits of Trust, Rutgers University Press, New Brunswick, NJ.


Low- versus high-consequence decisions

Mellina da Silva Terres, Cristiane Pizzutti dos Santos and Kenny Basso


Further reading


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