Customer loyalty and the effect of switching costs as a moderator variable
A case in the Turkish mobile phone market

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Abstract

Purpose – In the GSM mobile telephony sector, the main condition for protecting the subscriber base is to win customer loyalty, a key necessity for the maintenance of a brand's life in the long term. To achieve this aim, customer satisfaction and trust must be measured and "switching costs" identified. The latter render subscribers' preference for rival operators more expensive. In this connection, this paper's aim is to measure the effects of customer satisfaction and trust on customer loyalty, and the direct and indirect effect of "switching cost" on customer loyalty.

Design/methodology/approach – The data set covered 1,662 mobile phone users in Turkey. The data were analyzed by moderated regression analysis to test the hypotheses.

Findings – The findings of this study show that the switching cost factor directly affects loyalty, and has a moderator effect on both customer satisfaction and trust. Therefore, it plays a crucial role in winning customer loyalty. In short, it is a quasi moderator. However, switching costs was measured as a unidimensional factor, but switching costs in fact contains psychological, financial and procedural sub-dimensions. Therefore, future research might measure the sub-dimensions of switching costs and examine their moderating effects.

Originality/value – With respect to the findings, trust has more importance than customer satisfaction in engendering loyalty, since trust contains belief in the brand, which provides positive outcomes not only in the present but also in the future. But customer satisfaction does not contain this dimension. So, the effect of trust on loyalty becomes greater than the effect of customer satisfaction. Therefore, any GSM operator who wishes to preserve its existing subscriber base should concentrate on winning its subscribers' trust.

Keywords Mobile communication systems, Costs, Consumer behaviour, Customer loyalty, Customer satisfaction

Paper type Research paper

Introduction

"GSM" technology is a global system for mobile communications, which accounted in late 2004 for almost three quarters of the world mobile telephony market, both digital and wireless. The GSM sector in Turkey has been liberalized, and two new operators have joined the two already in the market. Since the growth rate decreased due to economic crisis in 2001, competition to acquire new subscribers has become more intense. In particular, the new entrants are trying to attract the other operators' subscribers, as a way to increase their subscriber base rapidly. This is a priority

because an operator's subscribers base is the most important factor affecting customers' preference, in this sector.

As Gerpott *et al.* (2001, p. 249) remark, "in telecommunication services, it is frequently pointed out that once customers have been acquired and connected to the telecommunication network of a particular operator, their long-term relations with the focal operator are of greater importance to the success of the company in competitive markets than they are in other industry sectors." In short, these developments plus economic crises make competition in the GSM sector stiffer.

Under all these conditions, protecting the existing customer base and retaining existing customer loyalty appear to be the crucial competitive advantage. Customer loyalty is a key component for a brand's long-term viability (Krishnamurthi and Raj, 1991). Oliver (1997, p. 392) defines it as "a deeply held commitment to re-buy or re-patronize a preferred product/service consistency in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior." Though there are many more definitions of customer loyalty, it seems clear that there are two basic varieties: stochastic and deterministic. Fournier and Yao (1997) and Jacoby and Kyner (1973), in expressing a need for a complete definition of brand loyalty, identify six necessary conditions: a biased (that is, random) behavioral response (that is, purchase), expressed over time by some decision-making unit, with respect to one or more alternative brands out of a set of such brands, as a function of psychological processes (such as decision making or evaluation).

No matter how customer loyalty is defined, in order to gain it, any operator needs to:

- increase subscriber satisfaction by raising offered service quality (see, for example, Anderson and Sullivan, 1993; Brady and Robertson, 2001; Kristensen *et al.*, 2000; Fornell *et al.*, 1996; Oliver, 1980);

- ensure subscribers' trust in the firm (see, for example, Fournier, 1998; Gundlach *et al.*, 1995; Morgan and Hunt, 1994; Lau and Lee, 1999); and

- establish a cost penalty for changing to another service provider, making that a comparatively unattractive option (Fornell, 1992) and expand is application (Eber, 1999; Jones *et al.*, 2000, 2002; Bloemer *et al.*, 1998; Burnham *et al.*, 2003; Feick *et al.*, 2001).

In this study, the penalty price to be paid for abandoning one provider in favor of another is referred to as the switching cost to the customer (Porter, 1998). It is a crucial factor, because it fosters customer loyalty and enables the firm to be less influenced by fluctuations in the level of service quality in the short term. In fact, both theoretical and empirical studies show that switching cost plays crucial role in protecting firms' existing customer base and gaining competitive advantage (for example, Farrell and Shapiro, 1988; Klemperer, 1987a, 1995). Therefore, firms nowadays concentrate on marketing activities directed at manipulating this penalty (Burnham *et al.*, 2003).

As the cost increases, customers become less sensitive to the satisfaction level (Hauser *et al.*, 1994). However, market structure influences the effect that switching cost has on the relationship between customer loyalty and customer satisfaction. If the market includes one overwhelmingly large share provider (such as an established fixed-line service provider), the effect of the switching cost on the relationship between customer loyalty and customer satisfaction will be low. Hence, dissatisfied customers

will continue to demand one brand while the penalty is high and/or they have no alternative to switch to (Feick *et al.*, 2001). When an alternative does exist (as in the GSM sector) and switching cost is low, dissatisfied customers can easily defect to a rival brand. On the other hand, customers experiencing high switching cost will tend to become loyal despite their dissatisfaction with the service delivered.

In most of the studies surveyed, the relationship between customer loyalty and customer satisfaction was stronger in customer segments with higher switching costs (see, for example, Bloemer *et al.*, 1998; Jones *et al.*, 2000). However, Patterson and Sharma (2000) determined that, as switching costs increased, the strength of relationship between trust and commitment also increased. All studies suggest that switching cost has a moderator effect on the crucial antecedents of customer loyalty, such as customer satisfaction and trust.

In general, although perceived cost penalties play a potentially important role in creating customer loyalty, the topic has attracted a limited number of research studies, while existing research into customer loyalty has focused on customer satisfaction, service quality and trust. Therefore, this paper addresses that deficiency in the literature by examining the direct effect of trust and customer satisfaction on customer loyalty, and the moderator effect of perceived switching cost on customer loyalty.

Theoretical background and hypotheses
Switching cost
Switching cost is formally defined as the cost involved in changing from one service provider to another (Porter, 1998). According to Jackson (1985), it is the sum of economic, psychological and physical costs. These perceived penalties for disloyalty deter customers from switching to a rival firm's brand.

Switching costs include not only those that can be measured in monetary terms but also the psychological effect of becoming a customer of a new firm, and the time and effort involved in buying new brand (Klemperer, 1995; Kim *et al.*, 2003). Hence, switching cost is partly consumer-specific (Shy, 2002).

Economical or financial switching cost can be thought of as a "sunk cost", which appears when customer changes his/her brand. Examples are the costs of closing an account with one bank and opening another with a competitor, the costs of changing one's long-distance telephone service (Klemperer, 1987b) or the costs of changing one's GSM service provider.

Procedural switching cost stems from the process of buyer decision-making and the customer's implementation of the decision. The five-stage process entails need recognition, information search, evaluation of alternatives, purchase decision and post-purchase behavior. For example, a customer contemplating switching should ideally evaluate alternative operators with regard to different criteria, such as coverage area, billing procedures, customer service or added value, purchase a new GSM service, and finally notify contacts of a new GSM number.

Psychological cost is a perceived cost stemming from social bonds that form in the course of time (for example, staff-customer relations) and the uncertainty and risk associated with switching to an unfamiliar brand (Patterson and Sharma, 2000; Sharma, 2003). The degree of perceived risk is highest when the consumer cannot evaluate service quality before purchasing (Sharma *et al.*, 1997).

Switching cost confers some advantages on firms, with a direct effect on customer loyalty level. For instance, it reduces customers' sensitivity to price and satisfaction level (Fornell, 1992), and they perceive functionally homogeneous brands as differentiated heterogeneous brands (Klemperer, 1987c).

In other words, in the presence of switching cost, customers who might be expected to select from a number of functionally identical brands display brand loyalty (Klemperer, 1987a). In due course, *ex ante* homogeneous products may be *ex post* differentiated by switching cost after they have been bought (Klemperer, 1987c). Moreover, if customers are sensitive to product attributes such as quality, uncertainty will decrease price sensitivity (Erdem *et al.*, 2002), and customers will behave as if brand-loyal.

For these reasons, switching cost is the factor that most directly influences customers' sensitivity to price level and so influences customer loyalty (e.g. Eber, 1999; Jones *et al.*, 2002; Bloemer *et al.*, 1998; Burnham *et al.*, 2003; Feick *et al.*, 2001). Therefore, the first research hypothesis is:

H1. Customer loyalty in customers with high perceived switching cost is stronger than in customers with low perceived switching cost.

Customer satisfaction

Customer satisfaction is an output, resulting from the customer's pre-purchase comparison of expected performance with perceived actual performance and incurred cost (Churchill and Surprenant, 1982). The marketing literature suggests that customer satisfaction operates in two different ways: transaction-specific and general overall (Yi, 1991). The transaction-specific concept concerns customer satisfaction as the assessment made after a specific purchase occasion. Overall satisfaction refers to the customer's rating of the brand, based on all encounters and experiences (Johnson and Fornell, 1991). In fact, overall satisfaction can be viewed as a function of all previous transaction-specific satisfactions (Jones and Suh, 2000).

Cumulative customer satisfaction is an overall evaluation based on the total purchase and consumption experience with a good or service over time. Whereas transaction-specific satisfaction may provide specific diagnostic information about a particular product or service encounter, overall satisfaction is a more fundamental indicator of the firm's past, current and future performance (Anderson *et al.*, 1994). This is because customers make repurchase evaluations and decisions based on their purchase and consumption experience to date, not just on a particular transaction or episode (Johnson *et al.*, 2001, p. 219). At the same time, services offered to GSM subscribers are continuously in flux. Therefore, customers' general evaluations are not based on satisfaction or dissatisfaction relating to a particular service transaction, bur on all the service encounters involved in being a subscriber to date. For that reason, the overall satisfaction approach was taken in this study.

On the other hand, no matter how customer satisfaction is assessed, it reduces sensitivity to price by lessening price elasticity (Garvin, 1988; Anderson, 1996) and minimizes customer loss from fluctuations in service quality in the short term (Fornell, 1992). The main result is high customer loyalty (e.g. Brady and Robertson, 2001; Oh, 1999; Eklöf and Cassel, 2001; Hackl *et al.*, 2000; Edvardsson *et al.*, 2000). In this context,

it can be assumed that the relationship between customer satisfaction and customer loyalty is positive.

As Palmer (1998) asserts, customers will not hold a favorable attitude towards the service provider compared to other alternatives available in the absence of some degree of satisfaction. Many other studies (for example, Gronholdt *et al.*, 2000; Kristensen *et al.*, 2000; Gerpott *et al.*, 2001; Sharma, 2003; Bruhn and Grund, 2000) have shown that customer satisfaction positively affected loyalty. Thus, the second research hypothesis is:

H2. Customer satisfaction has a positive effect on customer loyalty.

However, Fornell (1992) argues that the relationship between customer satisfaction and customer loyalty is affected by many factors, including the industry type, switching cost and the differentiation level of products in a category. Empirical studies in several sectors (e.g. Jones *et al.*, 2000; Feick *et al.*, 2001) show that there is a weaker relationship between customer satisfaction and customer loyalty in market segments with high perceived switching cost than in those with low perceived switching cost. In short, perceived switching cost has a moderator effect on customer loyalty: as it increases, customers' sensitivity to satisfaction decreases (Hauser *et al.*, 1994). Therefore, a further research hypothesis is:

H3. In customers with high perceived switching cost, there will be a weaker relationship between customer satisfaction and customer loyalty than in customers with low perceived switching cost.

Trust

Anderson and Narus (1990) emphasized that, in order to gain trust, one party has to believe that a third party will perform actions that result in positive outcomes for the first. Consequently, to trust a brand, a customer should perceive quality as positive.

Doney and Cannon (1997) suggested that the construct of trust involves a calculative process based on the ability of a party to a transaction to continue to meet its obligations and on an estimation of the cost-benefits of staying in the relationship. Therefore, the customer should not only perceive positive outcomes but also believe that these positive outcomes will continue in the future.

Trust has been recognized as an important factor in relationship commitment (see, for example, Morgan and Hunt, 1994, Moorman *et al.*, 1993, Sharma, 2003) and hence in customer loyalty (see, for example, Fournier, 1998; Gundlach *et al.*, 1995). It appears that, if one party trusts another, it is likely to develop some form of positive behavioral intention towards the other. Accordingly, when customers trust brands, they are also likely to form positive buying intentions towards them (Lau and Lee, 1999).

In this context, trust works at preserving relationship investments by cooperating with exchange partners, resists attractive short-term alternatives in favor of the expected long-term benefits of staying with existing partners, and views potentially high-risk actions as being prudent because of the belief that partners will not act opportunistically (Morgan and Hunt, 1994). Therefore, and consistent with other past research studies (for example, Chaudhuri and Holbrook, 2002; Lau and Lee, 1999; Sirdeshmukh *et al.*, 2002), a fourth research hypothesis can be formulated:

H4. There will be a positive relationship between trust in the firm and customer loyalty.

On the other hand, an increase in perceived switching cost will influence the direct effect of trust on customer loyalty (Sharma, 2003; Patterson and Sharma, 2000). In other words, perceived switching cost has a moderator effect on the relationship between trust and customer loyalty. Therefore, that relationship may be expected to be weaker in segments where switching cost is high:

H5. In customers with high-perceived switching cost, there will be a weaker relationship between trust and customer loyalty than in customers with low-perceived switching cost.

Research methodology
Measures
To measure the constructs, procedures were derived from the research literature, and multi-item scales employed. The customer loyalty scale developed by Narayandas (1996) was adapted to Turkish GSM sector. Its operational measures of customer loyalty are repurchase intention, resistance to switching to competitor's product that is superior to the preferred vendor's product, and willingness to recommend the preferred vendor's product to friends and associates.

To measure customer satisfaction, the American Customer Satisfaction Index study (NQRC, 1995) and Feick *et al.* (2001) were adapted to the Turkish situation, and four items were used. The operational measures in this case are overall satisfaction and conformity with expectations.

Overall satisfaction measures followed Consumer Reports (1998), and were operationalised as pricing plan and core service coverage area.

Operational measures of trust were perceived reliability (Morgan and Hunt, 1994), ethics (Lau and Lee, 1999), service quality (Anderson and Narus, 1990) and cumulative process (Doney and Cannon, 1997).

For measuring perceived switching cost, a seven-item scale was adapted from Burnham *et al.* (2003), Guiltinan (1989) and Jones *et al.* (2002). The operational measures are perceived monetary costs, uncertainty costs, evaluation costs, learning costs, and set-up costs.

Data collection and sample characteristics
The data set was obtained from 1,950 GSM users in four Turkish cities, by questionnaire. After a number of responses were eliminated by control questions, the final sample comprised 1,662 respondents. The distribution of respondents among GSM service providers was consistent with real market share, at 50.4 percent, 32.2 percent, 10.1 percent and 7.8 percent of the total sample. Similarly reflecting the market situation, 43.6 percent post-paid and 56.4 percent pre-paid for the service. The sample was 37 percent female and the mean age was 29 years. Respondents' average telephone bills and annual income are within normal ranges. The sample characteristics appear to be representative of GSM users in Turkey.

Table I shows the 21 statements with which respondents were invited to agree or disagree, using conventional five-point scales, as scale measures of their customer loyalty, customer satisfaction, overall satisfaction and perceived switching cost.

Construct	Item	EFA[a]	t-value[b]
Switching cost (Cronbach $\alpha = 0.674$, CRC = 0.73)	Switching to a new operator causes monetary cost	0.675	11.12
	If I switched to a new operator, the service offered by the new operator might not work as well as expected	0.648	28.87
	I am not sure that the billing of a new operator would be better for me	0.609	26.10
	To switch to a new operator; I should compare all operators, (on account of services, coverage area, billing, etc.)	0.582	16.36
	Even if I have enough information, comparing the operators with one another takes a lot of energy, time and effort	0.577	21.67
	If I switched to a new operator; I couldn't use some services (MMS, GPRS, WAP, etc.), until I learned to use them	0.529	21.41
	I would be concerned about the people who would dial my previous number and couldn't reach me	0.356	17.27
Customer loyalty (Cronbach $\alpha = 0.824$, CRC = 0.88)	I will go on using this GSM line	0.719	33.16
	If I bought a new GSM line, I would prefer this GSM operator	0.711	37.18
	I recommend this operator to people	0.707	50.58
	I encourage friends who plan buying GSM line	0.680	48.87
	Even if the other operators' billing is cheaper, I would go on using this GSM line	0.524	19.97
Customer satisfaction (Cronbach $\alpha = 0.771$, CRC = 0.83)	This GSM line completely meets expectations from any GSM line	0.763	32.84
	I am satisfied with this GSM line	0.742	40.04
	This GSM line meets my pre-purchase expectations	0.638	35.11
Trust (Cronbach $\alpha = 0.856$, CRC = 0.89)	I trust this company	0.794	43.77
	I feel that I can rely on this company to serve well	0.785	42.38
	I trust the billing system	0.739	39.12
	I believe that I can trust this company will not try to cheat me	0.738	36.38
	This company is reliable because it is mainly concerned with the customer's interests	0.627	29.75

Notes: [a] Factor loadings from exploratory factor analysis; [b] t-values, from confirmatory factor analysis, are significant at $p < 0.01$

Table I.
Items, factor analysis and reliability coefficients of the constructs

Non-response bias
To assess the possibility of non-response bias in the data, a chi-square difference test was performed, using the approximate percentages of each GSM operator in the sector and in the sample. The result $\chi^2_{(3)} = 0.1652$, $p < 0.01$ indicates that there is no difference between the two distributions. Accordingly, non-response bias is not a significant problem.

Construct reliability and validity
Constructs are measured via multiple-item measures. All scales are five-point format, with anchors at strongly disagree and strongly agree. The series mean replaced missing values in the data set (Downey and King, 1998).

The unidimensionality of constructs was assessed by exploratory factor analysis (Churchill, 1979). The scales were refined by deleting one item, which did not load meaningfully on customer satisfaction. The factor analysis was then re-run, and the results supported the unidimensionality of each scale in which the items of each scale loaded highly on a single factor.

Following this initial analysis, the item-set was subjected to confirmatory factor analysis, to assess validity (discriminant and convergent) and composite reliability. The measurement model was estimated by maximum likelihood using the Lisrel-8.30 program (Jöreskog and Sörbom, 1993). The results are presented in Table I. The overall chi-square statistic for the model is significant ($\chi^2_{(164)} = 1747.12$, $p < 0.01$) and the other indices provide evidence of good model fit.

In estimating convergent validity, one method often used is to examine the significance of parameter estimation (Anderson and Gerbing, 1988). As shown in Table I, each of the factor loadings is large and significant at the 0.01 level. Therefore, convergent validity was achieved for all the constructs in the study.

In assessing discriminant validity, confirmatory factor analysis was performed on a selected pair of scales, allowing for correlation between two constructs. To cite Mak and Sockel (2001, p. 272), "The analysis was rerun with the correlation between the two constructs fixed at one. If the correlation is a free parameter and not this fixed constant, the chi-square of the initial model (where correlation is free) should be much smaller than the latter model (where it's fixed at one). In addition, the difference between chi-square of these two models should be significant when checked against the chi-square test statistic at $p < 0.01$ with degrees of freedom equal to the difference in degrees of freedom between the two models." The chi-square difference tests in the present study (minimum $\chi^2_{(1)} = 1083$, $p < 0.01$) demonstrated that discriminant validity had been achieved.

For reliability, the composite reliability score for each construct was generated from standardized parameter estimates from confirmatory factor analysis. A coefficient was calculated by the formula of Fornell and Larcker (1981). As Table I shows, the composite reliability coefficients of all the constructs are acceptable, being greater than 0.60 (Hair et al., 1998). The items were submitted to reliability analysis via Cronbach's alpha, as also shown in Table I. All values were either close to or greater than 0.70, conforming to Nunnally (1978). On the basis of all reliability and validity analyses, the scales for constructs appear to have had satisfactory measurement qualities.

Hypothesis testing

Moderated regression analysis was used to determine whether or not perceived switching cost has a moderator effect on the relationship between customer satisfaction, trust and customer loyalty (Bloemer et al., 1998). That procedure involved the comparison of three regression models (Zedeck, 1971). The full model contains three terms: the dependent variable, the hypothesized moderator variable and the interaction term of these two. The restricted model omits either the interaction term or the hypothesized moderator. Tests are carried out by comparing the restricted model to the full model (Bloemer et al., 1998).

Before this analysis, the subscribers in the sample were divided into two groups: customers who perceived switching cost to be high and those who perceived it to be low. After creating the score for perceived switching cost component, the median value

of perceived switching cost was used as the cut-off criterion to select those observations that represented high and low levels of perceived switching cost (Siguaw *et al.*, 2003).

Three regression models were established for this study. The first contained the direct effect of customer satisfaction and trust on customer loyalty; the second contained the direct effects of customer satisfaction, trust and perceived switching cost on customer loyalty; and the third, two-part model contained moderator effects of perceived switching cost. The three can be expressed as follows, where CL = customer loyalty, CS = customer satisfaction, TR = trust, and DSC is a dummy variable relating to switching cost, set at 1 for high and 0 for low:

$$CL = \beta_0 + \beta_1*CS + \beta_2*TR, \tag{1}$$

$$CL = \beta_1 + \beta_2*CS + \beta_3*TR + \beta_4*DSC, \tag{2}$$

$$CL = \beta_1 + \beta_2*CS + \beta_3*TR + \beta_4*DSC + \beta_5*(DSC*CS), \tag{3.1}$$

$$CL = \beta_1 + \beta_2*CS + \beta_3*TR + \beta_4*DSC + \beta_5*(DSC*TR). \tag{3.2}$$

If model 2 is significant, it means that perceived switching cost has a direct effect on customer loyalty. But if there is no significant difference between model 2 and models 3.1 and 3.2 ($\beta_4 \neq 0$; $\beta_5 = 0$), then perceived switching cost is not a moderator variable. On the other hand, when β_4 equals 0 in model 2 and β_5 does not in models 3.1 and 3.2, perceived switching cost seems to be a pure moderator variable. Finally, if β_4 and β_5 are not equal to 0, perceived switching cost is a quasi-moderator variable.

The results for model 1 indicate that customer satisfaction and trust have positive and significant effects on customer loyalty. Therefore, *H2* and *H4* are accepted. According to the results for model 2, customer loyalty increases commensurately with perceived switching cost, and *H1* is thus supported. Moreover, since the explanatory power of model 2 at $R^2 = 0.470$ is higher than that of model 1 at $R^2 = 0.462$, the perceived switching cost makes a significant contribution to customer loyalty.

As can be seen from Table II, perceived switching cost has a moderator effect on the relationship between customer satisfaction and loyalty (model 3.1), and also on the relationship between trust and loyalty (model 3.2). According to the findings of model 3.1, the total influence of customer satisfaction on customer loyalty decreases in customers with high perceived switching cost, due to the moderator effect of perceived switching cost (parameter of DSC*CS). For them, the total effect of customer satisfaction on customer loyalty will become ($0.374 - 0.266 = 0.108$). By contrast, the total effect of customer satisfaction on customer loyalty becomes 0.374 in customers with low perceived switching cost. Hence, perceived switching cost has a moderator effect on the link between customer satisfaction and customer loyalty, as predicted by *H3*.

In the same manner, the fact that the parameter of (DSC*TR) in model 3.2 is significant at 0.01 level, *H5* is supported. Hence, perceived switching cost has a moderator effect on the relationship between trust in the service provider and customer loyalty. The total influence of trust on loyalty, for customers with high-perceived

	Model 1		Model 2		Model 3.1		Model 3.2	
	β_i	t- value	β_i	t- value	β_i	t- value	β_i	t- value
Intercept (1)	0.744	9.418	0.735	9.366	0.512	5.058	0.538	5.469
CS (2)	0.321	14.179	0.312	13.828	0.374	13.012	0.313	13.932
TR (3)	0.436	19.275	0.422	18.613	0.420	18.592	0.476	17.036
DSC (4)	–	–	0.090	4.900	0.329	4.626	0.312	4.486
DSC*CS (5)	–	–	–	–	–0.266	–3.478	–	–
DSC*TR (5)	–	–	–	–	–	–	–0.248	–3.309
Adjusted R^2	0.462		0.470		0.473		0.473	
F	715.48		491.60		374.19		373.65	

Table II.
Results of moderated
regression analysis
(MRA)

Notes: All the parameters are statistically significant at 1 percent. Regression parameters (β_i) are standardized value

switching cost, is less than the same effect in the case of customers with low switching cost.

When switching cost is perceived to be high, the total effect of trust on customer loyalty becomes $0.476 - 0.248 = 0.228$, compared with 0.476 in customers who perceive switching cost to be high. This moderator effect on the link between trust and customer loyalty is consistent with H5.

More particularly, since the explanatory power of both model 3.1 ($R^2 = 0.473$) and model 3.2 ($R^2 = 0.473$) is higher than that of either model 1 ($R^2 = 0.462$) or model 2 ($R^2 = 0.470$), it can be concluded that customer loyalty is a function of customer satisfaction, trust, perceived switching cost and interaction terms. Briefly, perceived switching cost is a quasi-moderator variable in explaining customer loyalty.

Discussion

This paper has focused on two issues in order to explain customer loyalty. The first is whether or not perceived switching cost is a basic factor, along with customer satisfaction and trust, in explaining customer loyalty. The findings supported the results in the existing literature.

However, it was noted that perceived switching cost had a positive effect on customer loyalty, as did customer satisfaction and trust. The antecedents of customer loyalty are customer satisfaction, trust and perceived switching cost for customers who perceive switching cost to be high, but switching cost has no effect on those who perceive it to be low, and the antecedents of customer loyalty in that case are customer satisfaction and trust alone

The second issue was whether or not perceived switching cost had a moderator effect on the relationships between customer satisfaction and loyalty, and trust and loyalty. The results showed that it has a moderator effect on both links: the effect of customer satisfaction on loyalty in customers is less when switching cost is perceived to be high rather than low. In other words, perceived switching cost reduces customers' sensitivity to the level of customer satisfaction.

In the same way, the effect of trust on loyalty in customers who perceive high switching cost is less than in the case of those who perceive it to be low. This finding contrasts with the work of Sharma (2003), who found in the case of

personal financial planning services that switching cost had no moderator effect on the association between trust and customer loyalty. Patterson and Sharma (2000) showed in the same context that the association between trust and customer loyalty in customers with high perceived switching cost was stronger than in those who perceived it to be low. This study, on the other hand, found that perceived switching cost negatively affected the relationship between trust and customer loyalty.

When the regression models were examined in respect to standardized regression parameters for two customer groups, it was found that the direct effect of trust on loyalty was stronger than that of customer satisfaction. This finding is different from existing results in the literature. It is likely that the main cause of the difference is market structure.

GSM services are invoiced in two ways: post-payment and pre-payment. In both alternatives, users should believe that the operator will not behave opportunistically, or they will tend to switch allegiance. The construct of trust contains belief in the brand, which provides positive outcomes not only in the present but also in the future. But customer satisfaction does not contain this dimension. Therefore, the effect of trust on loyalty becomes greater than the effect of customer satisfaction.

On the other hand, since perceived switching cost exercises a moderator effect on customers who believe it to be high, it is the main antecedent of loyalty. The total effects of customer satisfaction and trust on loyalty are respectively 0.108 and 0.228 in this customer group.

Furthermore, as a moderator variable, switching cost reduces the effect of both trust and customer satisfaction on loyalty. This is an important finding for decision-makers in GSM market, because it means that customer loyalty may not arise from satisfaction with the service or trust in the provider. If a customer perceives switching cost to be high, a barrier to exit will be set up, and the result will be apparent loyalty even in the absence of satisfaction or trust. Because of the potential importance of switching cost, GSM operators should focus on understanding and application of the switching cost phenomenon.

The other finding with significant implications for decision makers is that trust has more importance than customer satisfaction in engendering loyalty. Therefore, any GSM operator who wishes to preserve its existing subscriber base should concentrate on winning its subscribers' trust.

To sum up, the findings of this study show that the switching cost factor directly affects loyalty, and has a moderator effect on both customer satisfaction and trust. In short, it is a quasi moderator.

Limitations and future research directions
The data set on which this study is based was obtained from 1,662 GSM subscribers, whereas there are approximately 20 million subscribers in Turkey. The key variable, switching cost, was measured unidimensionally, whereas the construct in fact contains psychological, financial and procedural sub-dimensions. It was assumed that the antecedents of customer loyalty are satisfaction, trust and switching cost, but many other variables can affect loyalty, such as corporate image, service quality, attractiveness of the alternative or personal relationships with staff.

Therefore, future research might expand the data base, measure the sub-dimensions of switching cost and examine their moderating effects, simultaneously examine all the effects of these variables on loyalty, and apply the hypotheses and models developed here to other market sectors.

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