How switching costs affect subscriber loyalty in the Turkish mobile phone market: An exploratory study

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Abstract Both academics and practitioners approve of the strategic role of customer switching cost on ensuring customer loyalty. However, there is no consensus on either conceptualisation or measuring customer switching costs. In this context, the aims of this study are (1) to develop a model by using different sub-constructs of customer switching costs to prove this model's reliability and validity (discriminant and convergence) and (2) to analyse relationships among customer loyalty, customer satisfaction, trust and switching costs' sub-constructs in the mobile phone market. To this end, the data were obtained from 1,662 'global system for mobiles' (GSM) users by using a questionnaire. The findings, reached from exploratory and confirmatory factor analysis, show that the model of customer switching costs is reliable and valid, and there are statistically significant relationships among variables as expected.

INTRODUCTION

Due to changes in the technology and business environment, markets have now reached the maturity phase, shifting from local or domestic to international competence. Hence, in the more competitive market, firms work with products with a shorter product-life curve. In this environment, acquiring new customers has become difficult. As the cost and difficulty of acquiring new customers increase, protecting the existing customer base becomes important. Indeed, 'the costs of attracting

a new customer have been found to be up to six times higher than the costs of retaining existing ones'.1 Moreover, it is known that as customer loyalty increases, the sensitivity of the customer to price decreases.2 In this context, the struggle to protect customer base by acquiring loyal customers through developing long-term relationships is important. Especially in telecommunications services, it is frequently noted that once customers have been acquired and connected to a particular operator's network, their long-term relationships with the focal

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operator are of greater importance to the success of the company in competitive markets than they are in other industry sectors.³

Under all these situations, protecting the existing customer base or creating customer loyalty appears as the paramount competition advantage for operators in the telecommunications sector. Oliver⁴ defines customer loyalty as a deeply held commitment to rebuy or repatronise 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 behaviour. Although there are so many and different definitions about customer loyalty, there seem to be two basic approaches: stochastic loyalty and deterministic loyalty.⁵ Jacoby and Kyner⁶ define customer loyalty by encompassing all approaches as six necessary conditions: '(1) the biased (ie random), (2) behavioural response (ie purchase), (3) expressed over time, (4) by some decision-making unit, (5) with respect to one or more alternative brands out of a set of such brands, and (6) is a function of psychological (decision-making, evaluative) process'.

No matter how customer loyalty is defined, in order to create customer loyalty, any operator should (1) increase subscribers' satisfaction by raising service quality,^{7–9} (2) ensure subscribers' trust in the firm^{10,11} and (3) develop a switching cost, making it costly for customers to change service providers¹² and expand them.^{13–17}

According to Jackson, ¹⁸ switching cost is the sum of economic, psychological and physical costs. For this reason, switching cost can be seen as a cost that deters customers from demanding a rival firm's brand. These costs include not only the cost that can be measured as

monetary value but also the psychological effect based on becoming a customer of a new firm, and time and effort based on buying the new brand. Hence, switching cost is involved in customer perception, related to individual criterion, alongside monetary value, which can be objectively measured. Thus, switching cost is partly consumer-specific. 20

Switching cost gives firms some advantages: (1) the costs reduce customers' sensitivity to price and satisfaction level²¹ and (2) customers perceive functionally homogeneous brands as differentiated heterogeneous brands²² etc. In other words, in a market with switching cost, when the customer should select from a number of functionally identical brands, they display brand loyalty and continue to buy the same brand.²³ Shortly, ex ante homogeneous products may, after the purchase of one of them, be ex post differentiated by switching cost.²⁴ Moreover, if customers are sensitive to a product's attributes, such as quality, uncertainty will decrease price sensitivity;²⁵ in other words, the customer behaves as loyal. For these reasons, switching cost is the factor which directly influences customers' sensitivity to price level and so influences customer loyalty.²⁶⁻²⁹

In general, however, perceived switching cost has potential importance for creating customer loyalty. There has been a limited number of studies about switching costs, and existing research about customer loyalty has investigated such factors as customer satisfaction, service quality and trust. This paper, therefore, examines the direct effect of trust and customer satisfaction on customer loyalty, and the moderator effect of perceived switching cost on customer loyalty by considering existing deficiencies in the literature.

In this context, the main aim of the paper is to form a multidimensional switching-costs measurement model and to analyse the relationships among customer loyalty, satisfaction, trust and switching cost.

To this end, the data were obtained from 1,662 'global system for mobiles' (GSM) users by using a questionnaire. The findings from the data, reached by exploratory and confirmatory factor analysis, show that the model of customer switching costs is reliable and valid, and there are statistically significant relationships among variables, as expected.

THEORETICAL BACKGROUND AND HYPOTHESES

Customer satisfaction

Customer satisfaction is an output which results from the customer's comparison of expected performance in pre-purchase with performance perceptions in post-purchase and accepted cost.³⁰ When current marketing literature is examined, it is seen that customer satisfaction is conceptualised in two different ways: transaction-specific satisfaction and overall satisfaction.³¹ The transaction-specific satisfaction of the concept concerns customer satisfaction as the assessment made by a choice after a specific purchase occasion. 'Overall satisfaction refers to the customer's overall (dis)satisfaction with the brand based on all encounters and experiences with that particular brand'. 32 Indeed, overall satisfaction can be viewed as a function of all previous transaction-specific satisfactions.33

By comparison, cumulative customer satisfaction is an overall evaluation based on the total purchase and consumption experience with a good/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.³⁴ This is because customers make repurchase evaluations and decisions based on their purchase and consumption experience to date, not just a particular transaction or episode.³⁵ At the same time, services in the mobile phone market are prolonged. So, a customer's general evaluation is not based only on satisfaction/dissatisfaction from particular events of a service transaction, but on all the service encounters from being a subscriber to date. Therefore, an overall satisfaction approach was used in this study.

On the other hand, no matter how customer satisfaction is measured, it reduces customers' sensitivity to price by means of lessening the price elasticity, which minimises customer loss from fluctuations in service quality in the short term. The main result of this is high customer loyalty. In this context, it can be assumed that the relationship between customer satisfaction and customer loyalty is positive.

As stated by Palmer,³⁷ 'without satisfaction customers will not hold a favorable attitude towards the service provider, compared with other alternatives available'. Parallel to this idea, many studies (eg Gronholdt *et al.*,³⁸ Gerpott *et al.*,³⁹ and Sharma⁴⁰ etc) have evidenced that customer satisfaction positively affects loyalty. According to available findings, the first hypothesis is proposed as follows:

H₁: Customer satisfaction relates positively with customer loyalty.

According to Fornell, however,⁴¹ relationship between customer satisfaction and customer loyalty is affected by many

factors. These factors are (1) industry, (2) switching cost, (3) the differentiation level of products in the industry etc. Empirical studies in several sectors (eg Jones *et al.*⁴² for banking and hairdressing and Feick *et al.*⁴³ for GSM) show that there will be a weaker relationship between customer satisfaction and customer loyalty in customer segments with high-perceived switching cost than in customer segments with low-perceived switching cost.

Switching costs

Porter⁴⁴ defines switching costs as 'one time costs facing the buyer of switching from one supplier's product to another's'. In addition to objectively measurable monetary costs, switching costs may also pertain to the time and psychological effort involved in facing the uncertainty of dealing with a new service provider.⁴⁵ Hence, switching costs are partly consumer-specific.

Markets with switching costs are generally characterised by consumer lock-in, where it is observed that consumers repeatedly purchase the same brand even after competing brands become cheaper. 'One important consequence of having consumer lock-in is the ability of firms to charge prices above marginal costs'. ⁴⁶ Moreover, the studies show that learning effect based on the relationship between firm and customer enables firms to reduce service costs. ⁴⁷

Therefore, the multidimensional switching costs concept negatively affects customers' sensitivity to price⁴⁸ and so affects customer loyalty positively.⁴⁹

H₂: Each switching cost dimension relates positively with customer loyalty.

As stated by Klemperer,⁵⁰ there are at

least three types of switching costs: (1) transaction cost, (2) learning cost and (3) artificial or contractual costs. The transaction cost is the cost of a customer giving up their existing service provider and finding a new service provider. For example, two banks may offer identical current accounts, but there are high transaction costs in closing an account with one bank and opening another with a competitor. 'Another switching cost is learning cost; such as the costs of switching to a new brand of computer or cake mix after learning to use another brand'.51 The final switching cost is artificial or contractual cost, such as repeat-purchase coupons and 'frequent-flyer' programmes that reward customers for repeated travel on the same airline, and so penalise brand switchers.52

Burnham *et al.*⁵³ developed a switching cost typology that identifies three types of switching costs, each of which is composed of multiple facets: (1) procedural switching costs (consisting of economic risk costs, evaluation costs, learning costs and set-up costs); (2) financial switching costs (consisting of benefit-loss costs and monetary-loss costs) and (3) relational-costs (consisting of personal relationship-loss costs and brand relationship-loss costs).

Economic risk costs, which are the element of the procedural costs referred to by Burnham *et al.*,⁵⁴ refer to the perceived psychological cost based on the alternatives' risk. Alternatives are risky for the customer because unused brands may not meet customer expectations and they carry uncertainty. In the same way, both personal relationship-loss costs and brand relationship-loss costs are perceived psychological costs. In this context, a new measurement and classification model of customer switching costs can be developed for measuring switching

costs. Hence, the switching costs construct consists of three sub-factors: financial costs, procedural costs and psychological costs.

Monetary-loss costs: These costs are those associated with one-time financial outlays that are incurred by switching providers. ⁵⁵ For example, in the mobile phone market, monetary-loss costs consist of the expenditure for purchasing a new phone line and the sunk cost of a switched phone line.

Benefit-loss costs: Continued patronage of a provider often leads to the accrual of benefits and perquisites that are lost if the relationship is terminated.⁵⁶ Additional benefits, such as frequent flier discounts, membership programmes etc, represent an increment of the core service in a relationship.

Evaluation costs: Evaluation costs or search costs are the time, energy and money required to identify a new supplier source.⁵⁷ Thibault and Kelley⁵⁸ contend that the perception of search costs to be incurred in selecting a new supplier contributes to the continuation of current relationships.

These costs stem from the process of customer's buying decision-making and the implementation of this decision. The buying process contains the following phases: need recognition, information search, evaluation of alternatives, purchase decision and post-purchase behaviour. For example, if a customer wants to change operator, they should evaluate alternative operators with regard to different criteria, such as coverage area, billing, customer service, value added service etc.

Set-up costs: Set-up costs are the time and effort costs associated with the process of initiating a relationship with a new provider.⁶⁰ When customisation is high, as is often true in services, there is additional learning, namely service-provider learning, required to

facilitate customer satisfaction. Often, service-firm learning results in costs that fall to the customer when purchasing from a new service provider for the first time.⁶¹

Learning costs: Learning costs are the time and effort costs of acquiring new skills or know-how in order to use a new product or service effectively. A number of computer manufacturers may make machines that are functionally identical but, if a consumer has learned to use one firm's product line and has invested in the appropriate software, they have a strong incentive to continue to buy machines from the same firm, and to buy software compatible with them. 63

Psychological costs: A customer also faces a considerable risk in switching to an alternative service provider because they cannot evaluate the service before actually purchasing it. 'It is sometimes a case of the devil you know is better than the devil you don't'. 64 Risk or uncertainty is higher when quality is difficult to judge or varies considerably across alternatives. Thus, perceived uncertainty costs should be prominent in services, given their intangibility and heterogeneity.

As people have a tendency to avoid risk, they try to minimise the uncertainty of new brands through collecting information in the pre-purchase phase. If there is not enough information and/or the brand's quality or performance is difficult to judge, however, the customer's tendency to switch brand will decrease. When the alternatives are difficult to judge and the quality of alternatives is varied, the perception of risk or uncertainty increases.⁶⁵ In high technology sectors, the perception of uncertainty is particularly higher than in other sectors; this is because of the lack of relevant experience with the product category, information gap, technological heterogeneity and rapid change.⁶⁶

The main source of a customer's information for evaluation of alternatives is their or others' experiences. According to post-purchase cognitive dissonance, the customer who has collected information in order to decrease their anxiety about making a wrong purchasing decision will use all past purchase experience. In this process, if the customer switches the brand, they will compare the switched brand with the previous brand. Therefore, the better the switched brand's performance, the greater the uncertainty of the alternative. Hence, in order to decrease cognitive dissonance, customers prefer the brand that they have used before.⁶⁷

H₃: Customer satisfaction relates positively with perception of psychological cost.

Trust

Anderson and Narus⁶⁸ emphasise that in order to gain trust, one party must believe that another party will perform actions that will result in positive outcomes for itself. Consequently, in order to have trust in a brand, the customer should perceive quality as positive.

Trust has been recognised as an important factor in affecting relationship commitment⁶⁹ and, hence, customer loyalty. It appears that if one party trusts another, it is likely to develop some form of positive behavioural intention towards the other party. Accordingly, when a customer trusts in a brand, that customer is also likely to form a positive buying intention towards the brand.⁷⁰

In this context, trust: (1) works at preserving relationship investments by cooperating with exchange partners, (2) resists attractive short-term alternatives in favour of the expected long-term benefits of staying with existing partners and (3) views potentially high-risk actions as being prudent because of the belief that their partners will not act opportunistically.⁷¹ Hence, the following hypothesis is proposed, consistent with past research (eg Chaudhuri and Holbrook,⁷² Lau and Lee⁷³ etc):

H4: Trust in the firm relates positively with customer loyalty.

Doney and Cannon⁷⁴ suggest that the construct of trust involves a calculative process based on the ability of a party to continue to meet its obligations and on an estimation of the costs versus rewards of staying in the relationship. Therefore, to trust in a brand, the customer should not only perceive positive outcomes but also believe that these positive outcomes will continue in the future. It is known, however, that positive output from the brand will cause customer satisfaction. Consequently, there should be a positive relationship between customer satisfaction and trust.

H₅: Trust in the firm relates positively with customer satisfaction.

In addition, it is known that the definition of trust reflects credibility. On the other hand, credibility affects the long-term orientation of a customer by reducing the perception of risk associated with opportunistic behaviour by the firm.⁷⁵ Specifically, trust reduces the uncertainty in an environment in which consumers feel vulnerable because they know they can rely on the trusted brand.⁷⁶ That the customer trusts the operator in the mobile phone market reduces the uncertainty associated with services. Reducing the uncertainty associated with the operator relatively increases the uncertainty of alternatives

and switching costs based on the perception of uncertainty.

H₆: Trust in the firm relates positively with uncertainty cost.

METHODOLOGY

Measure development

To measure constructs, existing measurement models in the literature are used and multi-item scales are employed. To measure customer loyalty, the scale, developed by Narayandas, 77 has been adapted to the Turkish mobile phone market. Accordingly, operational measures, used in measuring customer loyalty are: repurchase intention, resistance to switching to a competitor's product that is superior to the preferred vendor's product, willingness to recommend the preferred vendor's product to friends and associates.

Measurement of customer satisfaction draws from the American Customer Satisfaction Index study⁷⁸ and three items are used. Operational measures, used in measuring customer satisfaction, are overall satisfaction and conformity to expectations. Overall satisfaction's measures are pricing plan and core service (coverage area). For trust, the measures are formed by means of using different but complementary definitions, and are measured with a five-item scale. Operational measures, used in measuring trust, are: reliability, ethics, service quality and cumulative process.

For measuring each of the perceived switching-cost dimensions, scales were generated using the proposed definitions and a review of the relevant literature. The perceived monetary-loss cost and the perceived benefit-loss cost were measured by adopting, respectively, the five- and two-item scales of Burham *et al.*⁷⁹ The perceived learning costs, the

perceived evaluation costs and the perceived set-up costs were measured by adopting the scales of both Burnham *et al.*⁸⁰ and Guiltinan⁸¹ and three-item scales were used for measuring these constructs. The perceived uncertainty costs and relational cost were measured by three and two items, respectively.

Data collection

The data set was obtained from 1,950 GSM users in Istanbul, Izmit, Bursa and Ankara via questionnaire. A number of questionnaires were eliminated by means of examining control questions in the questionnaire form. For this reason, the final data set contains 1,662 GSM subscribers.

The sample's distribution of GSM operators was consistent with their real market share: Aria (10.1 per cent), Aycell (7.8 per cent), Telsim (32.2 per cent) and Turkcell (50.4 per cent). Similarly, consistent with market share, 43.6 per cent of subscribers in the sample use a post-paid line and 56.4 per cent of subscribers use a pre-paid line.

Non-response bias: The possibility of non-response bias in the data was assessed by the chi-square difference test. To this end, the approximate percentage of each GSM operator in the sector and the percentage of each GSM operator were used in the sample. The chi-square test was performed in order to see whether the two distributions differed from each other. The test showed that there was no difference between the two distributions ($\chi^2 = 0.1652$, p < 0.01). Accordingly, non-response bias may not be a significant problem.

Measure validation

Constructs are measured by using multiple-item measures. All scales use a

Table 1: The results of factor analysis and reliability coefficients

	Item	EFA	CFA	t-value*	
Monetary-loss cost					
α: 0.76 CRC: 0.82 AVE: 0.55	χ1	0.514	0.47	17.77	
	χ2	0.788	0.78	31.49	
	χ3	0.832	0.91	36.60	
	χ4	0.745	0.74	29.82	
Benefit-loss cost					
α: 0.79 CRC: 0.86 AVE: 0.76	χ5	0,866	0.87	34.95	
	χ6	0.863	0.87	35.23	
Uncertainty cost	_				
α: 0.79 CRC: 0.85 AVE: 0.66	χ7	0.839	0.87	41.86	
	χ8	0.821	0.89	42.83	
	χ9	0.701	0.65	28.40	
Evaluation cost	40	0.000	0.54	00.57	
α: 0.71 CRC: 0.80 AVE: 0.58	χ10	0.606	0.51	20.57	
	χ11	0.846	0.86	38.73	
1	χ12	0.790	0.85	38.51	
Learning cost	40	0.700	0.00	00.07	
α: 0.82 CRC: 0.87 AVE: 0.69	χ13	0.799	0.83	39.37	
	χ14	0.853	0.88	43.32	
Cat acat	χ15	0.766	0.78	36.50	
Set-up cost α: 0.81 CRC: 0.89 AVE: 0.80	16	0.856	0.88	33.86	
α. 0.61 ChC. 0.69 AVE. 0.60	χ16	0.865	0.88		
Customer loyalty	χ17	0.000	0.91	34.00	
α: 0.82 CRC: 0.87 AVE: 0.60	χ18	0.756	0.77	35.95 35.95	
α. 0.82 CHC. 0.87 AVE. 0.00	χ19 χ19	0.730	0.77	39.59	
	χ19 χ20	0.741	0.87	42.81	
	χ21	0.620	0.84	40.78	
	χ22	0.601	0.49	20.29	
Customer satisfaction	XLL	0.001	0.40	20.20	
α: 0.77 CRC: 0.83 AVE: 0.62	χ23	0.704	0.74	32.94	
a. c., 7 Grio. c.cc 7 WE. c.c2	χ24	0.781	0.86	41.16	
	χ25	0.718	0.76	34.51	
Trust	Λ=0	J	00	JJ .	
α: 0.85 CRC: 0.89 AVE: 0.62	χ26	0.750	0.89	44.93	
3102	χ27	0.752	0.87	43.37	
	χ28	0.777	0.77	36.43	
	χ29	0.775	0.74	33.90	
	χ30	0.625	0.66	29.57	
	Α.				

(*): t-values of standardised factor loadings

AVE: Average variance extracted; CFA: Standardised factor score coefficients from confirmatory factor analysis; CRC: Composite reliability coefficient; EFA: Factor score coefficients from exploratory factor analysis

five-point scaling format with anchors from strongly disagree to strongly agree. The series' mean was replaced instead of missing values in the data set.

The unidimensionality of the construct, measured by multiple items, was assessed by factor analysis. Accordingly, scales for measuring customer loyalty, customer satisfaction, trust and each of the perceived switching cost dimensions, were analysed by exploratory factor analysis. According to the results of exploratory factor analysis,

the scales were refined through deleting five items that did not load meaningfully on the perceived switching set-up cost, monetary-loss cost and relational cost. As the items used to measure relational loss cost did not all load on the same factor, psychological cost included only uncertainty cost. Having deleted these items, exploratory factor analysis was rerun and this analysis supported the unidimensionality of each scale, in which the items of each scale loaded highly on a single factor. The results of the final

exploratory factor analysis are presented in Table 1.

Following this initial analysis, the item set was subjected to confirmatory factor analysis (CFA) to asses validity (discriminant and convergent) and composite reliability. The measurement model was estimated by maximum likelihood using the Lisrel-8.30 program. The results of the CFA are presented in Table 1. Although the overall chi-square statistic for the model is significant $(\chi^2_{(365)} = 2830.55, p < 0.01)$, because of the sample size, the other fit indices goodness of fit index (GFI) (0.90), adjusted goodness of fit (AGFI) (0.87), standardised root mean square residual (SRMR) (0.053), root mean square error of approximation (RMSEA) (0.064), normed fit index (NFI) (0.91) and comparative fit index (CFI) (0.93) represent evidence of good model fit. Consequently, the data fit the measurement model.82

In estimating convergent validity, one method often used is examining the parameters' estimated pattern coefficients. ⁸³ As shown in Table 1, 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, CFA was performed on a selected pair of scales, allowing for correlation between two constructs. 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 is fixed at one). In addition, the difference between the 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.⁸⁴ All the chi-square difference tests (minimum $\chi^2_{(1)} = 967.45$, p < 0.01) demonstrated that discriminant validity had been achieved.

The composite reliability score for each construct was generated from standardised parameter estimates from CFA. The composite reliability coefficient was calculated by the formula provided by Fornell and Larcker. ⁸⁵ As shown in Table 1, the composite reliability coefficients of all the constructs were acceptable, because they were all greater than 0.60.

The amount of variance that is captured by a factor is measured by the variance-extracted estimate. The desirable level of variance extracted is 0.50 or higher. As shown in Table 1, the variance extracted estimate for each factor also exceeds the acceptable levels.

Moreover, the items were submitted to reliability analysis via Cronbach alpha. Reliability analysis of four factors can be seen in Table 1. All the factors' reliability values were either close to or greater than 0.70, as Nunnally⁸⁷ recommends for research. The scales for constructs had satisfactory measurement qualities according to all reliability and validity analysis.

TESTS OF THE HYPOTHESES

Hypotheses regarding the relationships among variables were tested using ϕ (phi, correlations) estimates from confirmatory factor analysis. The confirmatory factor analysis was run not only for the total sample (1,662), but also for pre-paid line users (948) and post-paid lines users (724). The correlation estimates for the total sample was used for hypothesis testing. The chi-square difference test was used for testing differences of the correlation estimates of switching cost dimensions

Construct	Data	1	2	3	4	5	6	7	8	9
SCM (1)	Total sample	1.00								
	Pre-paid ·	1.00								
	Post-paid	1.00								
SCB (2)	Total sample	0.20*	1.00							
	Pre-paid ·	0.10*	1.00							
	Post-paid	0.34*	1.00							
SCU (3)	Total sample	0.17*	0.37*	1.00						
	Pre-paid ·	0.16*	0.36*	1.00						
	Post-paid	0.21*	0.39*	1.00						
SCE (4)	Total sample	0.28*	0.25*	0.45*	1.00					
	Pre-paid ·	0.17*	0.46*	0.56*	1.00					
	Post-paid	0.29*	0.39*	0.41*	1.00					
SCL (5)	Total sample	0.25*	0.42*	0.51*	0.51*	1.00				
	Pre-paid ·	0.25*	0.22*	0.43*	0.65*	1.00				
	Post-paid	0.30*	0.30*	0.46*	0.51*	1.00				
SCS (6) Total sa Pre-pai	Total sample	0.00	0.17*	0.25*	0.31*	0.26*	1.00			
	Pre-paid ·	0.20*	0.43*	0.54*	0.91*	0.48*	1.00			
	Post-paid	0.27*	0.35*	0.46*	0.84*	0.51*	1.00			
CS (7)	Total sample	-0.13*	0.26*	0.33*	0.17*	0.23*	0.31*	1.00		
	Pre-paid ·	-0.19*	0.27*	0.35*	0.37*	0.17*	0.25*	1.00		
	Post-paid	-0.05	0.23*	0.31*	0.16*	0.16*	0.18*	1.00		
TR (8)	Total	-0.07*	0.29*	0.32*	0.19*	0.28*	0.24*	0.70*	1.00	
	Pre-paid	-0.19*	0.27*	0.31*	0.35*	0.15*	0.22*	0.74*	1.00	
	Post-paid	0.08	0.28*	0.33*	0.31*	0.26*	0.29*	0.64*	1.00	
CL (9)	Total sample	0.03	0.35*	0.36*	0.23*	0.31*	0.22*	0.72*	0.77*	1.0

Table 2: Phi estimates from confirmatory factor analysis

The first number is the ϕ estimate and the second number in parenthesis is the *t*-value (*): Significant at the p < 0.01 level

0.36*

0.30*

-0.05

0.12*

SCM: monetary-loss cost; SCB: benefit-loss cost; SCU: uncertainty cost; SCE: evaluation cost; SCL: learning costs: CS: customer satisfaction; TR: trust; CL: customer loyalty

0.36

0.35*

0.36

0.30*

0.20*

0.27*

between pre-paid lines users and post-paid lines users. All the correlation estimates from CFA can be seen in Table 2.

Pre-paid Post-paid

The results indicate that customer satisfaction is positively (ϕ : 0.72) and significantly (p<0.01) associated with customer loyalty. Thus, H₁ is supported, even for pre-paid and post-paid lines. Moreover, according to the chi-square difference test ($\chi^2_{(1)} = 23$, p<0.01), the relation in pre-paid lines is significantly greater than in post-paid lines.

H₂ suggests each switching cost dimension is positively associated with customer loyalty. The correlation estimates from CFA show sufficient evidence to accept this hypothesis, except for monetary-loss cost. For post-paid lines, however, the relationship between monetary-loss cost and customer

loyalty is significantly positive (0.12).

0.30*

0.29*

0.77

0.66*

0.78*

0.76*

1.00

1.00

Referring to Table 2, although there is a positive relationship between monetary loss cost and customer loyalty (ϕ : 0.03), this relationship is not statistically significant. However, other switching cost dimensions (benefit-loss, uncertainty, learning, evaluation and set-up costs) correlate positively and significantly (p < 0.01) with customer loyalty. These correlation values are: 0.35, 0.36, 0.31, 0.23 and 0.22, respectively.

According to the chi-square difference test ($\chi^2_{(1)} = 16.54$, p < 0.01), the relationship between customer loyalty and monetary-loss cost in post-paid lines is significantly greater than in pre-paid lines. For learning cost, the chi-square difference test ($\chi^2_{(1)} = 3.03$, p < 0.10) shows that the association between customer loyalty and learning cost in

post-paid lines is greater than in pre-paid lines. In the same way, the chi-square difference test ($\chi^2_{(1)} = 3.56$, p < 0.10) indicates that customer loyalty and benefit-loss cost in pre-paid lines is greater than in post-paid lines. The chi-square difference tests for uncertainty, evaluation and set-up costs, however, indicate that there is no difference between pre-paid and post-paid lines.

Referring to Table 2, customer satisfaction relates positively (ϕ : 0.33) and significantly (p < 0.01) with uncertainty cost. The result supports H₃. Similarly, the positive relationship between trust and uncertainty cost (ϕ : 0.32) is significant at p < 0.01, so H₅ is supported.

With reference to the correlation estimates, H_4 , which proposes that customer satisfaction correlates positively with trust, and H_5 , which proposes that trust correlates positively with customer loyalty, are supported at the p < 0.01 level.

CONCLUSIONS

This paper provides two insights: first, multidimensionality of switching cost and this factor structure's reliability and validity (convergent, discriminant) are supported. The second insight derives from examination of relationships among customer loyalty, satisfaction, trust and all the switching cost dimensions.

When the relationship between customer loyalty and each switching cost dimension is examined, it can be seen that each switching cost dimension, except the monetary-loss cost, relates positively and significantly with customer loyalty.

The monetary-loss cost does not correlate significantly with customer satisfaction because of the competition in the Turkish mobile phone market. There are four operator firms in the Turkish mobile phone market. Two of the

operators (Aria and Aycell) are new entrants. The market growth rate has diminished, however, and the number of new subscribers has slowed down in the market. Therefore, the operators, especially the newer entrants, have tried to attract rivals' subscribers instead of developing the market. To this end, the two newer entrants follow price competition and offer below-market prices; they may even offer customers a phone line without charge. In this situation, the cost to a subscriber of switching from an existing to a new operator decreases as it does not include monetary cost. This is why the monetary cost has no effect on customer loyalty.

The most significant information about monetary cost is that it relates negatively with trust and customer satisfaction for all samples. With reference to this finding, as the perception of trust or the perception of satisfaction increase, the perceived monetary cost of switching to a new operator decreases; yet the findings show that both trust and customer satisfaction relate positively to the other switching cost dimensions. In other words, as trust and customer satisfaction increase, non-monetary switching cost dimensions become important. For post-paid mobile phone users, however, monetary-loss cost positively affects loyalty in contrast to pre-paid line mobile phone users.

The perceived benefit-loss cost and the perceived uncertainty cost are the switching cost dimensions that have the strongest correlation with customer loyalty. One explanation for this is the structure of the Turkish mobile phone market. Turkcell has approximately 65 per cent and Telsim has approximately 25 per cent of the subscribers in the sector. Over the course of time, these operators have formed an infrastructure all over Turkey, so have acquired a great proportion of the market. When the

market reached the maturity phase, the new entrant operators received a licence. Furthermore, it is known that these entrants have not been able to form such an infrastructure across Turkey. In this regard, the subscribers, who are able to take these services across Turkey via incumbents' infrastructure, may perceive that the entrants cannot provide adequate services owing to the problem of insufficient infrastructure (the problem of coverage of the calling area). Naturally, this perception causes the perceived uncertainty cost.

Benefit-loss cost for pre-paid mobile phone users affects loyalty more than for post-paid users. This paper notes that recent subscribers prefer pre-paid lines, rather than the post-paid lines offered by operators; and that to attract new customers, operators offer subscribers additional benefits, such as free counter, discounted tariffs etc. Thus, the effect of benefit-loss cost on loyalty for pre-paid lines is greater than for post-paid lines.

As can be seen in Table 2, trust is the factor with the strongest correlation with customer loyalty. The strong relationship can be explained by the general characteristics of the mobile phone market. The operators offer a variety of calling plans with different rates and calling times. Customers choose the plan appropriate for their expected usage, given available payment plans.⁸⁸ In general, there are two calling and payment plans in the Turkish mobile phone market: post-paid and pre-paid. Customers who choose the post-paid type pay the cost of the services that have been delivered; customers who choose the pre-paid type pay a charge for the services that will be delivered. For both types, customers must believe their partners will not act opportunistically, although customers may well switch operator. Thus, given that one of the operational measures of trust is

benevolence/ethical behaviour, this suggests that customers with high loyalty have greater trust in the operator.

It is known, however, that trust in the operator demands not only ethical behaviour but also service quality and continuity. In this context, it is expected that customer satisfaction and trust have a positive correlation. The findings also support this proposition. Subscribers who are satisfied with service quality and who believe that the operator does not behave opportunistically, have strong loyalty.

Another result of trust in the operator is that it increases perceived uncertainty. The correlation between trust and perceived uncertainty cost is higher than the correlation between trust and other switching cost dimensions; this is because as trust in the operator increases, the risk of alternative operators increases comparatively.

Directions for future research

According to the findings, customer satisfaction relates positively with customer loyalty and with perceived uncertainty cost, consistent with past research. However, the correlation values represent the direction of the relationship between variables. This paper may guide future research, as the relationships between each switching cost dimension and other variables (customer satisfaction, loyalty and trust), and the significance of these relationships, has been examined in this study.

On the other hand, as there are simultaneous correlations based on cause—effect relationships between the variables studied here, relationships should be tested using the structural equation modelling technique. Future research could contribute to the literature by developing the multidimensional measurement model of switching costs and implementation in different sectors.

Managerial implications

In Turkey, the mobile phone market has been opened to competition, and two new operators have entered the sector, joining the two existing operators. Since the sector's growth rate decreased due to economic crisis in 2001, however, the competition to acquire new subscribers has become more intense. In particular, the entrant operators are trying to attract other operators' subscribers in order to increase their subscriber base rapidly, as, in this market, the operator's subscriber base is the most important factor affecting new subscribers' operator preference. Essentially, in telecommunications 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 relationships with the focal operator are of greater importance to the success of the company in competitive markets than they are in other industry sectors'.89 Briefly, these developments and economic crises make customer loyalty the crucial factor for operators.

The findings from this empirical study provide important information about customer loyalty for the decision-makers in the sector. First, as noted before, it is seen that the effective factor in acquiring customer loyalty is not only customer satisfaction but also trust and switching cost dimensions.

The switching cost dimensions can be measured for every operator and sector by using the multidimensional switching cost measurement model, including all the switching cost facets. In this respect, the critical information can be obtained by both manipulating the perceptions of the subscribers' switching costs for a defensive strategy, and determining the perceptions of the switching costs of the rival operators' subscribers for an offensive strategy.

Owing to price war in the sector, while the perceived monetary-loss cost is not an important factor for customer loyalty, additional benefits for customers play a crucial role for loyalty. Moreover, the entrant operators cannot continuously follow price competition. The value-added services include customer services, such as a call centre, and secondary services, such as data access, WAP, SMS, MMS. Hence, operators should differentiate these services.

As competition tends to value-added services and the variety of the services increases, GSM services will become more complex for customers.

Consequently, learning to use the services effectively will require more effort and time. This effort was conceptualised and measured as the perceived learning cost in this study. Referring to the findings, the perceived learning cost correlates positively with customer satisfaction.

Therefore, operators can positively affect the customers' perceived learning cost by differentiating value-added services; in this way they can expand customer loyalty.

Additionally, offering further benefits in accordance with the subscription period and customers' mobile phone expenses can increase the perceived benefit-loss cost. In this manner, customer loyalty can be expanded, in parallel with the perceived benefit-loss cost. It can be seen that the incumbent operators (overwhelmingly large-share operators) in the sector have followed this strategy against the entrants' price competition. For example, the operators give subscribers discounts and/or free counters. These activities will increase the perceived benefit-loss cost, as the period of subscription remains.

The switching costs cannot guarantee customer loyalty alone, however, because the telecommunications regulator in the sector is attempting to block the operators' activities in this area. Moreover,

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it should not be forgotten that customer satisfaction is the base factor for loyalty, especially in a sector with fierce competition. Indeed, satisfaction provides both trust and the perceived uncertainty cost, and thus customer loyalty.

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