
Original Article

Service quality and customer retention in mobile telephony

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ABSTRACT The aim of this paper is to identify the influence of service quality on customer loyalty in the Greek mobile telephony sector. Service quality was measured using the SERVPERF model. Repurchase intention and positive word of mouth were used as behavioural components to measure customer loyalty; however, it should be noted that customers' stated repurchase intention does not always ensure their actual repurchase behaviour. The influence of perceived price on customers' repurchase intention was also examined. Data were collected through survey research, and 180 mobile telephony users were personally interviewed. The findings showed that there are relationships between service quality and customers' repurchase intention in mobile telephony.

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INTRODUCTION

In Greece, the mobile telephony market has now reached its mature stage, and as Zeithaml, Berry

and Parasuraman¹ stated, the net return on investments in mature markets could be much higher for retention strategies than for strategies to attract new customers, particularly for companies with an established customer base.

In Greece, there are three mobile operators: Vodafone, Wind and Cosmote of the Greek

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Public Telecommunications Organisation. Another operator, Q-Telecom, has recently entered the market; however, its share is very small (about 4 per cent). As there is severe competition in the market, mobile operators should find ways to retain their customers and increase their profitability.

This study aims to identify whether service quality and perceived price are influencing customers' repurchase intention in the mobile telephony sector in Greece. However, as Rust and Zahorik² mentioned, repurchase intention may not reflect the true probability of repurchase, and it is important to recognise that the intention to repurchase is not the same as actual repurchase.

THEORETICAL BACKGROUND

Customer loyalty

Customer loyalty has been variously defined in the literature. Jones and Sasser³ defined customer loyalty as the feeling of attachment to or affection for a company's people, products or services.

According to the literature, customer loyalty can be defined as an attitude and as behavioural loyalty.⁴ Loyalty as an attitude is the consumer's relatively enduring affective orientation for a product, store or service.⁵ Behavioural loyalty is the customer's intention to repurchase the product/service.⁴

As a behaviour, customer loyalty has been measured as the customers' repeat purchase probability.⁶ However, loyalty as an attitude cannot be measured with repurchase intent, because it can capture a behavioural component of loyalty and taps a behavioural intention.

In the service management literature, loyalty is mainly defined according to the behavioural view, and the majority of loyalty studies were operationalised behaviourally.

Customer repurchase intention in the mobile telephony sector refers to the users' intention to continue to repurchase the service from their mobile operator, and not switch to another operator even after their contract expires. Thus, the behavioural component to measure customer loyalty will be focused on the customers' stated purchase behaviour, that is, their propensity to buy again.

In this study, customers' stated intention to repurchase is measured, and, as already mentioned, this does not measure their attitude towards the service and their actual behaviour, that is, repurchase itself. Thus, although customers stated that they intend to repurchase, they may not actually do so.

A variety of reasons, including competitive actions such as lower prices or unexpected factors such as financial reasons, pressures from friends/relatives or other reasons, may prevent them from repurchasing.

As mentioned, customer loyalty according to the behavioural view can be assessed with customers' intent to repurchase. However, according to Jones and Sasser,³ secondary behaviour is another alternative way to assess customer loyalty, that is, customer referrals, endorsements and word of mouth, which are extremely important forms of consumer behaviour for a company. Dabholkar *et al*,⁷ Cronin *et al*,⁸ Andreassen and Lanseng,⁹ Danaher and Haddrell,¹⁰ Rust *et al*¹¹ and Woodside *et al*¹² also considered repurchase probability and word of mouth the two proxies for customer loyalty, and these two will be used in this study.

The importance of customer loyalty

There are claims that it is more expensive to win a new customer than to retain an existing customer. Loyalty initiates a series of economic effects, and the net return on investments for the companies could be much higher for retention strategies than for strategies to attract new customers.^{1,13}

However, it is not only companies who benefit from customer loyalty, but also the customers. Researchers such as Peterson¹⁴ and Barnes¹⁵ argued that for a long-term relationship to exist, both the firm and the customer must benefit. Customer benefits of being loyal include social benefits, mutual trust, confidence benefits, financial benefits and non-monetary economic benefits. The benefits of customers being loyal according to the literature are presented in Table 1.

Service quality

Service quality is defined as a global assessment, that is, the customer's overall impression of the

Table 1: Customer benefits of being loyal

Reference	Benefit
Barlow ¹⁶	Social benefits associated with personal recognition from employees, customer familiarity with employees and the development of friendship.
Barnes ¹⁵	Social benefits including feelings of familiarity, personal recognition, friendship, rapport and social support.
Bitner ¹⁷	Confidence benefits, which are associated with faith in the trustworthiness of the provider, reduced perceptions of anxiety and risk and knowing what to expect. Trust in the service provider and the keeping of promises are particularly important dimensions of the relationship from the customer's perspective.
Berry ¹⁸	Risk reduction.
Klemperer ¹⁹	Economic advantages including special treatment benefits such as reward programmes (for example, frequent flyers programmes).
Peterson ¹⁴	Special pricing considerations.
Rosenblatt ²⁰	Freedom from having to make decisions.
Sheth and Parvatiyar ²¹	Reduction of choices by engaging in an ongoing loyalty relationship with marketers.
Zeithaml ²²	The provider gains knowledge of the consumer's tastes and preferences and this ensures better treatment and encourages more interest in the consumer's satisfaction.

relative inferiority/superiority of the organisation and its services.^{5,23–25} However, other researchers claimed that service quality exhibits both global- and consumer-specific forms.^{26,27}

Apart from the different definitions, different ways of measurement were also proposed. Researchers such as Parasuraman *et al.*^{5,25} and Rust and Zahorik² supported the concept of the expectation – perception gap for measuring service quality.

Cronin and Taylor^{28,29} expressed doubts about the empirical usefulness of expectations, and suggested that the performance-minus-expectations is an inappropriate basis for use in the measurement of service quality. In addition, researchers such as Mazis *et al.*,³⁰ Bolton and Drew,³¹ Babakus and Boller,³² Babakus and Mangold,³³ Cronin and Taylor,^{28,29} Boulding *et al.*,³⁴ Brown *et al.*,³⁵ Teas,³⁶ and Patterson and Johnson,³⁷ maintained that the expectation – perception gap is not appropriate for measuring

service quality. Furthermore, according to a number of researchers, the degree of usage of a service influences the formation of customers' expectations. Customers' expectations for continuously provided services (such as the telephone service) or long-lasting durable goods, as Oliver and Swan³⁸ argued, are passive, and disconfirmation will not operate unless service changes occur that are outside the range of experience-based norms. This was reinforced by Bolton and Drew,³¹ who claimed that as telephone service is a continuous service, customer responses should be affected only by performance evaluations.

In addition, there is a lot of criticism in the literature concerning the simultaneous measurement of expectations and perceptions. This approach assumes that expectations before the service are identical to expectations after the service, and does not account for the fact that expectations may change over time.^{39–41} However, the majority of empirical studies conducted to measure service quality have been cross-sectional.⁵ Longitudinal studies may not be adequate for commonly/continuously provided services such as telephone service,⁴² and the users of most services might not agree to be part of a longitudinal study.

Thus, in this study, perceptions alone were used to measure service quality, and the SERVPERF model was used. The SERVPERF model is the most well known of the performance-based models for measuring service quality, and was developed by Cronin and Taylor.²⁸ It uses the five dimensions and the 22 items of the well-known gap-model for measuring service quality, SERVQUAL, developed by Parasuraman *et al.*,²⁵ but does not incorporate expectations into its measurement scale. SERVQUAL consists of five dimensions (tangibles, reliability, responsiveness, assurance and empathy), including 22 pairs of Likert-type scales to measure customer expectations and perceptions.

Importance weights were not included in the SERVPERF scale. There is much discussion in the literature as to whether it is necessary to include importance weights in service quality measurement. Mazis *et al.*³⁰ and Cronin and Taylor²⁸ argued that the unweighted measurement

of performance is a better method for measuring service quality. In addition, the research of Teas⁴³ showed that the unweighted models generally performed better than the weighted models in service quality measurement.

Perceived price

Perceived price was defined according to Zeithaml²³ as the price as it is encoded by the consumer. Chang and Wildt⁴⁴ defined perceived price as the consumers' perceptual representation or subjective perception of the objective price of the product/service.

As Storbacka *et al*⁴⁵ and Patterson and Spreng⁴⁶ claimed, buyers have an acceptable price range for a given purchase, rather than a single price, and this should not be ignored, because in the case of continuously provided services, it serves as normative price expectations for the service.⁴⁷

Models linking service quality and price to customer purchase intention

Many researchers argued that there is a link between customer purchase intention and service quality. Among these researchers are Headley and Miller,⁴⁸ who explored in a primary clinic setting the possibility of a link between perceived service quality and its various dimensions and a patient's future intent to complain, compliment, repeat purchase, switch providers and not use the service at all. Their findings revealed that perceived higher service quality will generate favourable intentions (for example repurchase, complementing) and that perceived lower service quality will lead to unfavourable intentions (for example complaining, switching and non-use of any services).

In addition, Boulding *et al*³⁴ examined how service quality influenced behavioural intentions in two different settings, a laboratory experiment involving two simulated visits to a hotel and an educational institution. For behavioural intentions, they used two measures, repeat business and willingness to provide favourable word of mouth. Their findings indicated that service quality perceptions positively influenced behavioural intentions and willingness to recommend.

Furthermore, Zeithaml *et al*¹ developed a conceptual model that depicted the behavioural

consequences of service quality. They incorporated a more extensive multiple-item behavioural intentions measure distinguishing intentions into favourable and unfavourable, and examined service quality's impact on the different types of behavioural intentions. The model was empirically examined, and the customers of four companies (computer manufacturer, retail chain, automobile insurer and life insurer) were surveyed by mail. The results showed strong evidence that customer behavioural intentions were strongly influenced by service quality.

Ennew and Binks⁴⁹ explored the relationships among service quality, customer relationships and customer loyalty in the banking sector. They examined factors affecting customer retention and defection, and the extent to which these were influenced by service quality. The results showed that service quality was an important factor, which contributes to an organisation's ability to retain loyal customers, and thus contributes to improved organisational performance.

Kangis and Zhang⁵⁰ explored the link between service quality and customer retention in banking. Their findings showed that service quality had an effect on customer retention through being related to the stated intention to continue doing business with the bank.

As can be seen from the above models, customers' repurchase intentions are influenced by service quality. On this basis, for the Greek mobile telephony sector, the following hypothesis is offered:

Hypothesis 1: Repurchase intention is influenced by perceived service quality.

According to the literature, price has an effect on customer purchase intentions. As Engel *et al*¹ mentioned, price is an important factor influencing consumers' purchase behaviour.

In addition, Chang and Wildt⁴⁴ examined the links among price, product attribute cues, perceived quality and value and purchase intention. They conducted a laboratory experiment for a student housing service unit and a PC purchasing unit. Their empirical findings indicated that both perceived price and perceived quality had direct effects on purchase intentions.

According to the above experiment, it can be seen that customers' repurchase intentions are influenced by perceived price. Thus, for the Greek mobile telephony sector, the following hypothesis is offered:

Hypothesis 2: Repurchase intention is influenced by perceived price.

METHODOLOGY

Data were collected through a survey research, conducted in November 2007, where 180 mobile telephony users were personally interviewed. The survey was conducted among the customers of the three main mobile operators, Vodafone, Cosmote and Wind. Q-Telecom was not entered in this sample because its market share is still very small (about 4 per cent). The survey took place in Athens. This choice was based partly on convenience of access, and it was not considered appropriate at this stage to seek a sample proportionate to each operator's customers without a proper theoretical justification. A researcher stood outside each operator's shop on consecutive days and invited those leaving the shop to complete the questionnaire on the spot. Thus, 60 respondents were interviewed for each of the three operators, leading to a sample of 180 usable questionnaires, which was deemed satisfactory for this kind of survey. A rotation was undertaken so as to avoid being outside the same shop at the same time each day. About one in two of those approached agreed to grant an interview. Out of the existing contact methods, personal interviewing was preferred because the questionnaire was long, and thus a large non-response rate would be avoided. In addition, by personal interviewing, any needed explanations were given to the respondents so that they were able to answer the questionnaire properly. The questionnaire had been pre-tested on a sample of 10 respondents selected on convenience, and was adjusted where required.

To measure service quality, the SERVPERF model was used. Perceived price was operationalised with a single measure. The proxies used to measure customer loyalty were repurchase intention and positive word of mouth.

A five-point Likert scale ranging from 'strongly agree = 5' to 'strongly disagree = 1' was used as it would fulfil the aims and facilitate the analysis.

The questionnaire was translated into Greek using the back-translation method. The questionnaire used for the final research survey comprised the SERVPERF for measuring service quality and some additional questions concerning overall service quality, perceived price and customers' repurchase intention, as well as their intention for positive word of mouth and the demographic characteristics.

The data collected from the questionnaires were statistically analysed. The statistical tests used were mainly Pearson correlation coefficients or chi-square tests, according to the nature of the scales.

FINDINGS

A statistical elaboration of the sample took place, and the distribution of the sample as well as the relationships between the demographic variables are presented in Tables 2 and 3.

Table 2: Distribution statistics of the sample (per cent)

<i>Age</i>	<i>(%)</i>	<i>Gender</i>	<i>(%)</i>
18–24	32	Female	49
25–34	33	Male	51
35–44	25		
45–54	8		
55–64	2		
<i>Occupation</i>		<i>Education</i>	
Businessmen	15	No education	0
Managers	4	Primary	4
Top executives	4	Secondary	39
Employees	37	Post-secondary schools	31
Workers	10	University	26
Homemakers/retired/ unemployed	17		
Students	13		
<i>Family status</i>		<i>Children at home</i>	
Not married	46	Under 18 years old	36
Married	40	Over 18 years old	29
Divorced	5	Over and under 18 years old	3
Cohabit	9	No children	32
Widowhood	0		
<i>Operator</i>		<i>Type of usage</i>	
Cosmote	32	Business	16
Vodafone	39	Personal	19
Wind	29	Both	65

N=180.

Table 3: Relationships between demographic variables

	<i>Gender</i>	<i>Age</i>	<i>Education</i>	<i>Occupation</i>	<i>Family status</i>
Age	ns	—	—	—	—
Education	0.0795	0.000	—	—	—
Occupation	0.0292	0.000	0.000	—	—
Family status	ns	0.000	ns	0.0036	—
Children at home	ns	0.000	ns	0.0388	0.000

Note: Figures denote significance levels (two-tail tests).
 ns, not significant ($P > 0.10$) on chi-square test.
 N=180.

Table 4: Relationships between quality measures and loyalty measures

	<i>Perceived quality</i>	<i>Repurchase intention</i>	<i>Positive word of mouth</i>
Overall quality	0.429	0.315*	0.348*
Perceived quality	—	0.451*	0.608*

Note: Pearson correlation coefficients, N=180.
 ns, not significant.
 * $P < 0.01$.

Tables 2 and 3 show that the distribution of the sample did not display any unexpected bias taking into consideration the norms and the standards of Greek society. Older respondents were better educated, held more senior positions and were more likely to be married and have children. Better educated people held higher positions. Men were better educated and held better jobs than women.

In order to identify the relationships between the quality measures and the loyalty measures applied in this research paper, that is, customers' repurchase intention and positive word of mouth, Pearson correlations were calculated, and the results are presented in Table 4.

Relationships proved to exist between service quality and repurchase intention and thus Hypothesis 1 was verified. Perceived service quality proved to be associated with repurchase intention. The correlation between repurchase intention and perceived quality proved to be higher than the correlation between the single measure of overall service quality and repurchase intention. Thus, it can be concluded that the SERVPERF model performs better than the single overall service quality measure.

Table 5: Relationships between price and loyalty measures

	<i>Repurchase intention</i>	<i>Positive word of mouth</i>
Perceived price	-0.306*	-0.470*

Note: Pearson correlation coefficients, N=180.
 ns, not significant.
 ** $P < 0.01$.

Table 6: Service attributes with the higher perceptions

<i>Cosmote</i>	<i>Vodafone</i>	<i>Wind</i>
Provide customers accurate and error free records	High-quality equipment (for example, mobile handsets visually appealing and user friendly)	High-quality equipment (for example, mobile handsets visually appealing and user friendly)
Employees are consistently courteous with customers	Employees are consistently courteous with customers	Visually appealing physical facilities
High-quality equipment (for example, mobile handsets visually appealing and user friendly)	Materials associated with the service (manuals, pamphlets, statements) are visually appealing and easy to understand	Employees tell customers exactly when services will be performed

In order to identify the relationship between customer loyalty and perceived price, Pearson correlations were calculated, and the results are presented in Table 5.

Repurchase intention proved to be associated with perceived price and thus Hypothesis 2 was verified.

In Table 6, the three attributes of SEVPERF where respondents had higher perceptions are presented.

In Table 7, the three service attributes where respondents had lower perceptions are presented.

Table 7: Service attributes with the lower perceptions

<i>Cosmote</i>	<i>Vodafone</i>	<i>Wind</i>
The company has its customers' best interests at heart	The company has its customers' best interests at heart	The company has its customers' best interests at heart
The company is giving customers individual attention	Employees are never too busy to respond to customers requests	The company has employees who are giving customers personal attention
Employees are never too busy to respond to customers requests	The company is providing services at the promised time	The company is operating 24h per day, 7 days a week

As can be seen from Tables 6 and 7, Greek operators, especially Vodafone and Wind, offer visually appealing handsets to their customers. However, Cosmote gives error-free records to its customers. Wind has better physical facilities, and the other two operators have consistently courteous employees. However, none of the three operators has its customers' best interests at heart. Employees do not pay individual attention to their customers, and they do not respond immediately to their requests. In addition, Wind's operating hours do not satisfy its customers.

DISCUSSION

The findings verified the research hypotheses, and proved that there are relationships between service quality and repurchase intention in the Greek mobile telephony sector. This finding is in accordance with the literature, as researchers such as Zeithaml *et al.*,¹ Ennew and Binks,⁴⁹ Chang and Wildt,⁴⁴ Headley and Miller⁴⁸ and Boulding *et al.*³⁴ also found that service quality has an influence on purchase intention.

The relationships between service quality and repurchase intention showed that service quality is an important decision-making criterion for service consumers, and any efforts to improve quality will be beneficial. Thus, the Greek mobile operators should pay attention to the quality of their services. As the results of this study showed, customers feel that mobile operators do not have their best interests at heart, and that employees do not pay individual attention to them and do not

respond immediately to their requests. It is obvious that Greek mobile operators should improve customer service. The low quality of service gives an opportunity to a new entrant, Q-Telecom, which, as mentioned, has recently entered the market, to gain a competitive advantage and win market share.

In general, operators should understand what quality means to their customers in order to improve their positions in the market. Managers should take into consideration the fact that quality signals change over time, and they should make a sustained, long-term effort to impress and retain customers.

The findings also showed that perceived price was negatively associated with repurchase intention. This is in accordance with Chang and Wildt⁴⁴ and Engel *et al.*⁵¹ As price is an important factor influencing customers' usage levels and repurchase intention, especially in the telecommunication sector, mobile operators should pay special attention to keeping prices down in order to increase usage, which is still very low in comparison with fixed telephony.

Perceptions proved to have a higher correlation with repurchase intention than the overall service quality measure. Thus, SERVPERF is a richer construct than the overall service quality measure, and it represents more accurately this multifaceted construct. However, there was high correlation between the overall service quality measure and customers perceptions as measured by SERVPERF. Researchers such as Headley and Miller,⁴⁸ who measured service quality in medical care services, found that service quality as measured by SERVQUAL was positively related to an overall service quality measure, which they included in their questionnaire.

However, as mentioned, repurchase intention may not reflect the true probability of repurchase, and it is important to recognise that the intention to repurchase is not the same as actual repurchase.² In addition, it should be noted that repeat business may not be the isolated result of the customers' happiness with the company, but other considerations may exist as well. These other considerations include barriers to switching to another provider, which result in false loyalty

or no loyalty.^{3,6} In the mobile telephony sector in France, Lee et al⁵² raised concerns about the time and effort needed when switching to a different provider, for example filling out forms (transaction costs) and costs in time of seeking information on prices/benefits (search costs).

LIMITATIONS, CONTRIBUTIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The findings are in keeping with the literature; however, consideration was limited to the identified factors, but also several other variables influencing customers repurchase intention in mobile telephony such as service value and customer satisfaction exist. As Chang and Wildt⁴⁴ mentioned, the formation of purchase intention is more complex than might have been expected, and many factors in addition to service quality and price might deserve investigation. Service quality may only tenuously be connected to loyalty (as these terms are defined and measured) in certain sectors. Thus, the intermediate steps between formulating a service quality level and influencing customers so that they become or remain loyal need sturdier theoretical underpinning and significant empirical support.

In addition, this study examined the influence of perceived price only, and not of reference price or objective price. In this study, customers' stated intention to repurchase is measured, and not repurchase itself.

Furthermore, the choice of the sample was based partly on convenience of access; it is not a sample proportionate to each operator's customers, and the profiles of those interviewed with the profiles of customers for the three operators were not compared. Therefore, it is not possible to assess the representativeness of the samples of customers in the survey. In addition, the survey took place in Athens, and covered a limited geographic market and not the whole country.

This study examines the relationships among service quality, price and customer loyalty in the Greek mobile telephony sector, and is the first that has applied the SURVPERF model in this sector. Thus, it has contributed to the service sector literature a sector of continually increasing

importance, and in particular to the mobile telephony sector literature, where up to now little investigation has taken place.

Academically, further research based on these findings can add to the present pool of knowledge by examining the influence of other factors on customers' repurchase intention in mobile telephony.

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APPENDIX

The Questionnaire

A. General Characteristics

1. Mobile Telephony Operator :
Cosmote Vodafone
Wind Other
2. Type of Usage:
Business Personal Both
3. Payment of the Monthly Bill:
By the user By others

B. Demographic Characteristics

1. Gender:
Male Female
2. Age:
18–24 25–34 35–44
45–54 55–64
3. Education:
University Post-secondary schools
Secondary Primary
No education
4. Occupation:
Businessperson Manager Top executive
Public Employee Private Employee Worker
Farmer Homemaker Retired
Unemployed Student
5. Family Status:
Married Not married Divorced
Cohabiting Widowhood
6. Children at Home:
Over 18 years old Under 18 years old
Both No children

C. Servperf

This part of the survey deals with customers' perceptions concerning mobile telephony service. Please show the extent to which you believe mobile telephony companies provide each one of the attributes. If you circle a '1', this means that you strongly disagree that mobile telephony companies have that attribute, and if you circle a '5', this means that you strongly agree. You may also circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers; all we are interested in is a number that really shows

your perceptions about mobile telephony services.

1 --- 2 --- 3 --- 4 --- 5

STRONGLY DISAGREE STRONGLY AGREE

1. The Mobile telephony (MT) company has high quality equipment (for example visually appealing mobile handsets and user friendly) 1 --- 2 --- 3 --- 4 --- 5
2. The MT company has visually appealing physical facilities 1 --- 2 --- 3 --- 4 --- 5
3. The employees have a professional and neat appearance 1 --- 2 --- 3 --- 4 --- 5
4. Materials associated with the service (manuals, pamphlets, statements) are visually appealing and easy to understand 1 --- 2 --- 3 --- 4 --- 5
5. The MT company provides services at the promised time 1 --- 2 --- 3 --- 4 --- 5
6. The employees of the MT company, when customers have problems, show a sincere interest in solving them 1 --- 2 --- 3 --- 4 --- 5
7. The MT company provides its services right from the first time 1 --- 2 --- 3 --- 4 --- 5
8. The MT company provides its services at the promised time 1 --- 2 --- 3 --- 4 --- 5
9. The MT company provides customers accurate and error-free records 1 --- 2 --- 3 --- 4 --- 5
10. The employees of the MT company tell customers exactly when services will be performed 1 --- 2 --- 3 --- 4 --- 5
11. Employees give prompt service to customers 1 --- 2 --- 3 --- 4 --- 5
12. Employees are always willing to help customers 1 --- 2 --- 3 --- 4 --- 5
13. Employees are never too busy to respond to customers' requests 1 --- 2 --- 3 --- 4 --- 5
14. Employees' behaviour instills confidence in customers 1 --- 2 --- 3 --- 4 --- 5

